LSE COMPLEXITY research seminar

"Aid on the Edge of Chaos"

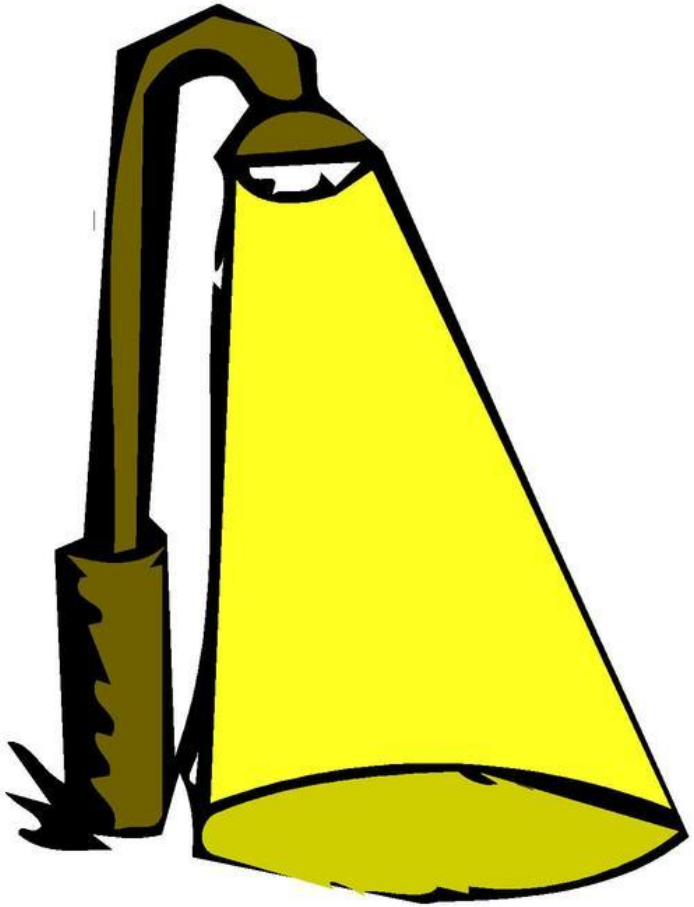
Exploring Complexity in International Development and Humanitarian Work

LSE, 22 April 2010

Agenda

- International aid and the linear mindset
- Complexity science – origins and concepts
- Implications for aid
- Aid on the edge...
- Summary

A well-known parable…



A man was walking home one dark and foggy night. As he groped his way through the murk he nearly tripped over someone crawling around by a lamp post.

"What are you doing?" asked the traveler.

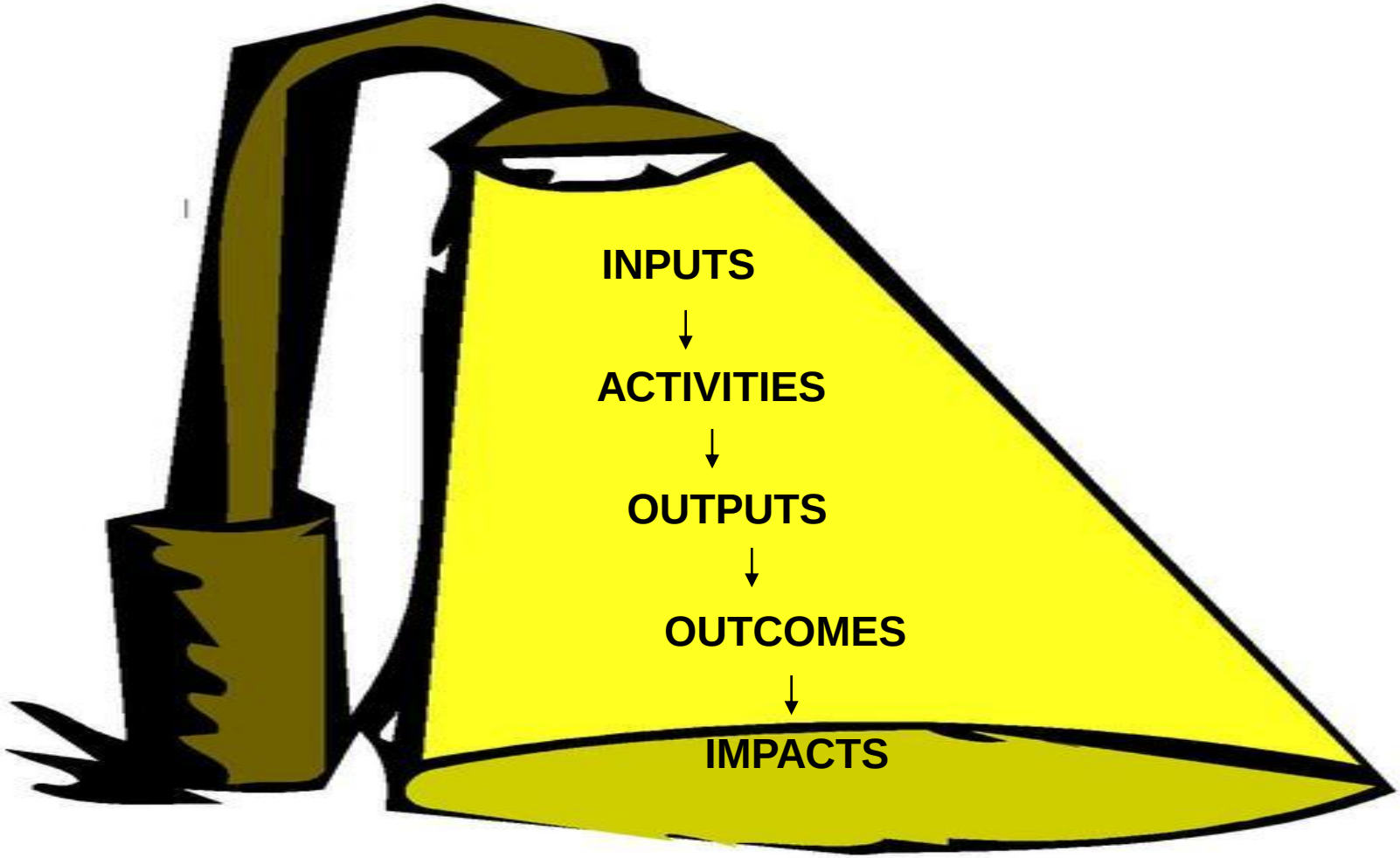
"I'm looking for my keys" replied the other.

"Are you sure you lost them here?" asked the traveler.

"I'm not sure at all," came the reply, *"but if I haven't lost them near this lamp I don't stand a chance of finding them."*

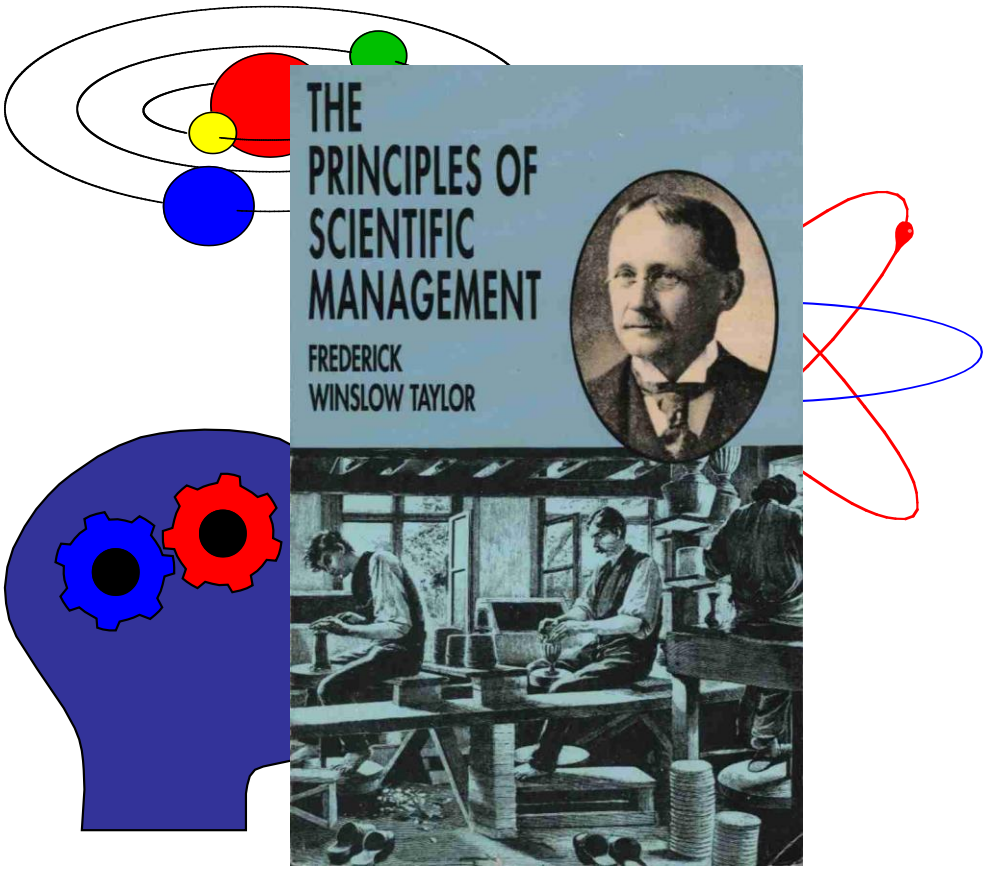
What does this story mean to you, in your own context ?

For me: a closer inspection of the light under the lamp reveals…



WHY?

The linear approach **dominates** the strategic, learning, performance and organisational frameworks used in the aid sector

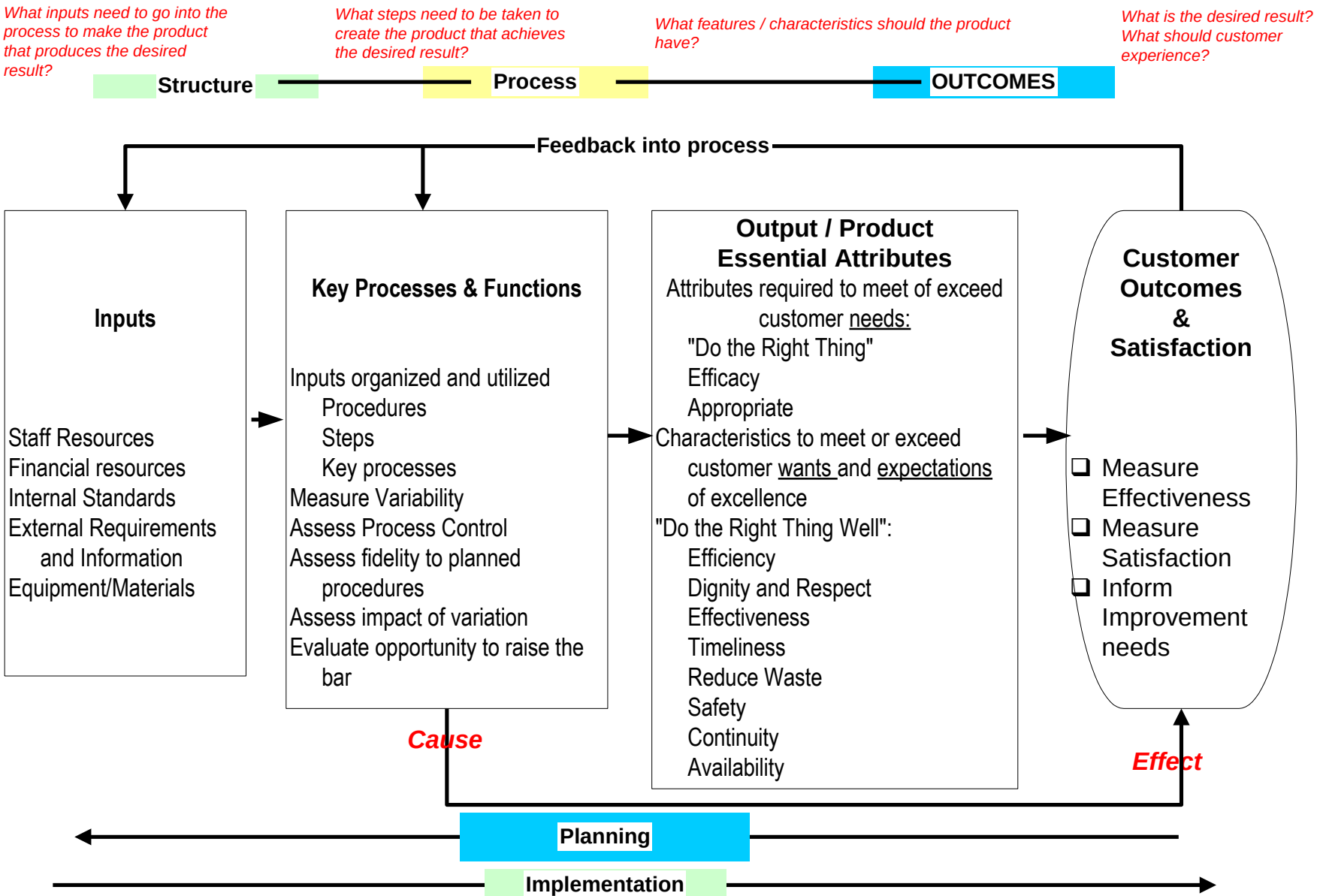


- The machine metaphor - universe as Newtonian clockwork
- The future is knowable given enough data
- Development and post-disaster recovery can be reduced to simple cause and effect relationships
- Breaking down parts would reveal how the whole system worked – turns aid into the search for the search for the right inputs
- The role of aid researchers, managers & leaders is to predict and control - increasing levels of control (over nature, over people, over things) would improve processes, organisations, quality of life, entire human societies

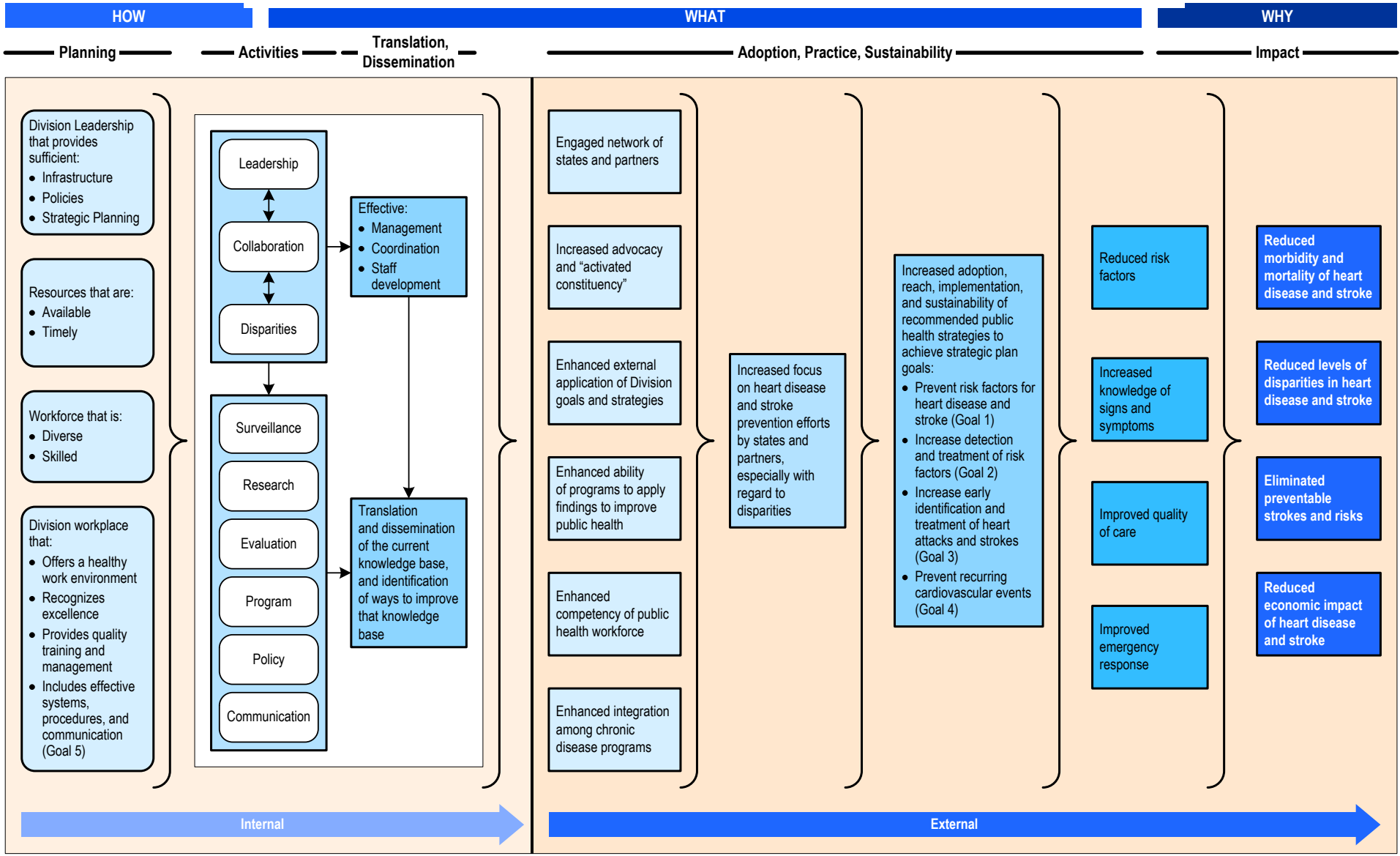
Key Assumptions of the linear model – systems, change, human actions

- Assumptions about systems
  - Ordered
  - Reductionist - parts would reveal the whole
- Assumptions about how systems change
  - Linear relationships, additive
  - influence as direct result of force from one object to another - predictable , proportional
  - Simple cause & effect
  - Can hold things constant
- Assumptions about human actions
  - Rational choice
  - Behavior specified from top down
  - Certainty and “knowability”

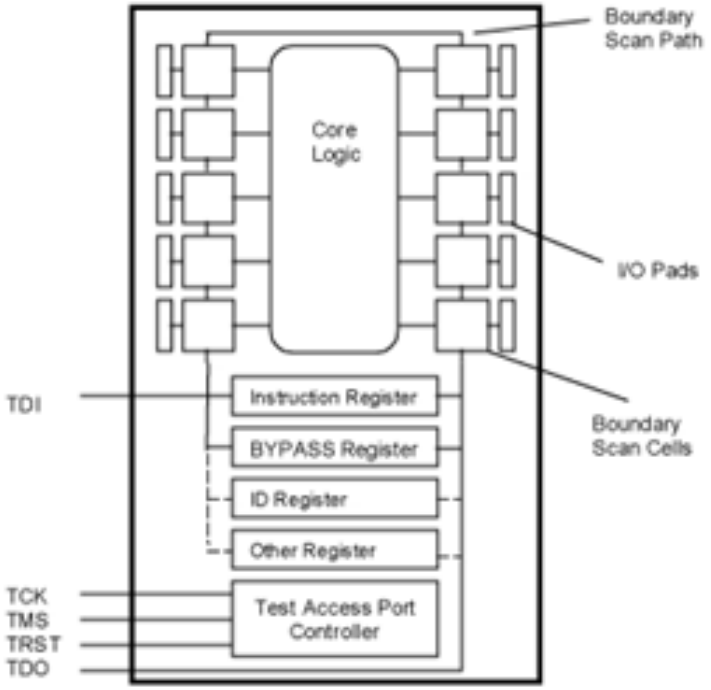
... And leads to models that look like this...



Or even this...


HOW
WHAT
WHY
Planning
Activities
Translation, Dissemination
Adoption, Practice, Sustainability
Impact
Division Leadership that provides sufficient:
• Infrastructure
• Policies
• Strategic Planning
Resources that are:
• Available
• Timely
Workforce that is:
• Diverse
• Skilled
Division workplace that:
• Offers a healthy work environment
• Recognizes excellence
• Provides quality training and management
• Includes effective systems, procedures, and communication (Goal 5)
Leadership
Collaboration
Disparities
Surveillance
Research
Evaluation
Program
Policy
Communication
Effective:
• Management
• Coordination
• Staff development
Translation and dissemination of the current knowledge base, and identification of ways to improve that knowledge base
Engaged network of states and partners
Increased advocacy and "activated constituency"
Enhanced external application of Division goals and strategies
Enhanced ability of programs to apply findings to improve public health
Enhanced competency of public health workforce
Enhanced integration among chronic disease programs
Increased focus on heart disease and stroke prevention efforts by states and partners, especially with regard to disparities
Increased adoption, reach, implementation, and sustainability of recommended public health strategies to achieve strategic plan goals:
• Prevent risk factors for heart disease and stroke (Goal 1)
• Increase detection and treatment of risk factors (Goal 2)
• Increase early identification and treatment of heart attacks and strokes (Goal 3)
• Prevent recurring cardiovascular events (Goal 4)
Reduced risk factors
Increased knowledge of signs and symptoms
Improved quality of care
Improved emergency response
Reduced morbidity and mortality of heart disease and stroke
Reduced levels of disparities in heart disease and stroke
Eliminated preventable strokes and risks
Reduced economic impact of heart disease and stroke
Internal
External

(spot the difference)

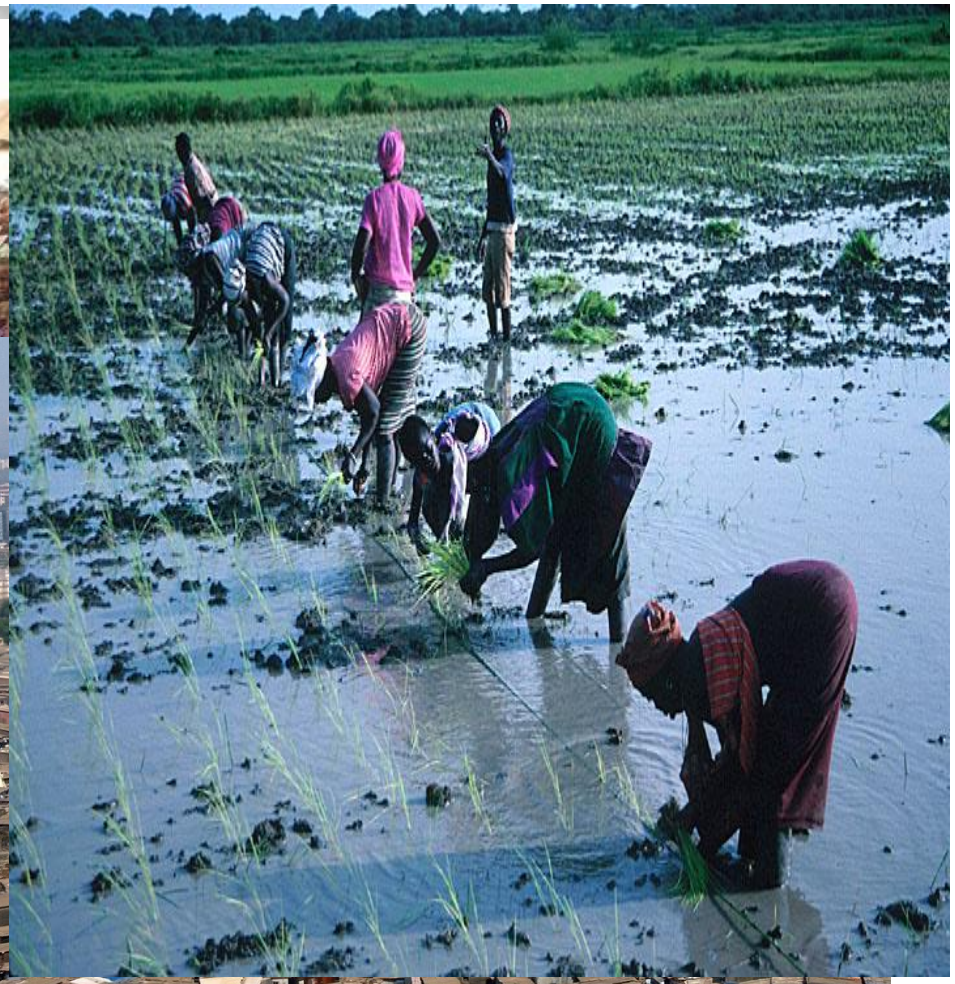


Linear approaches work well in certain situations...

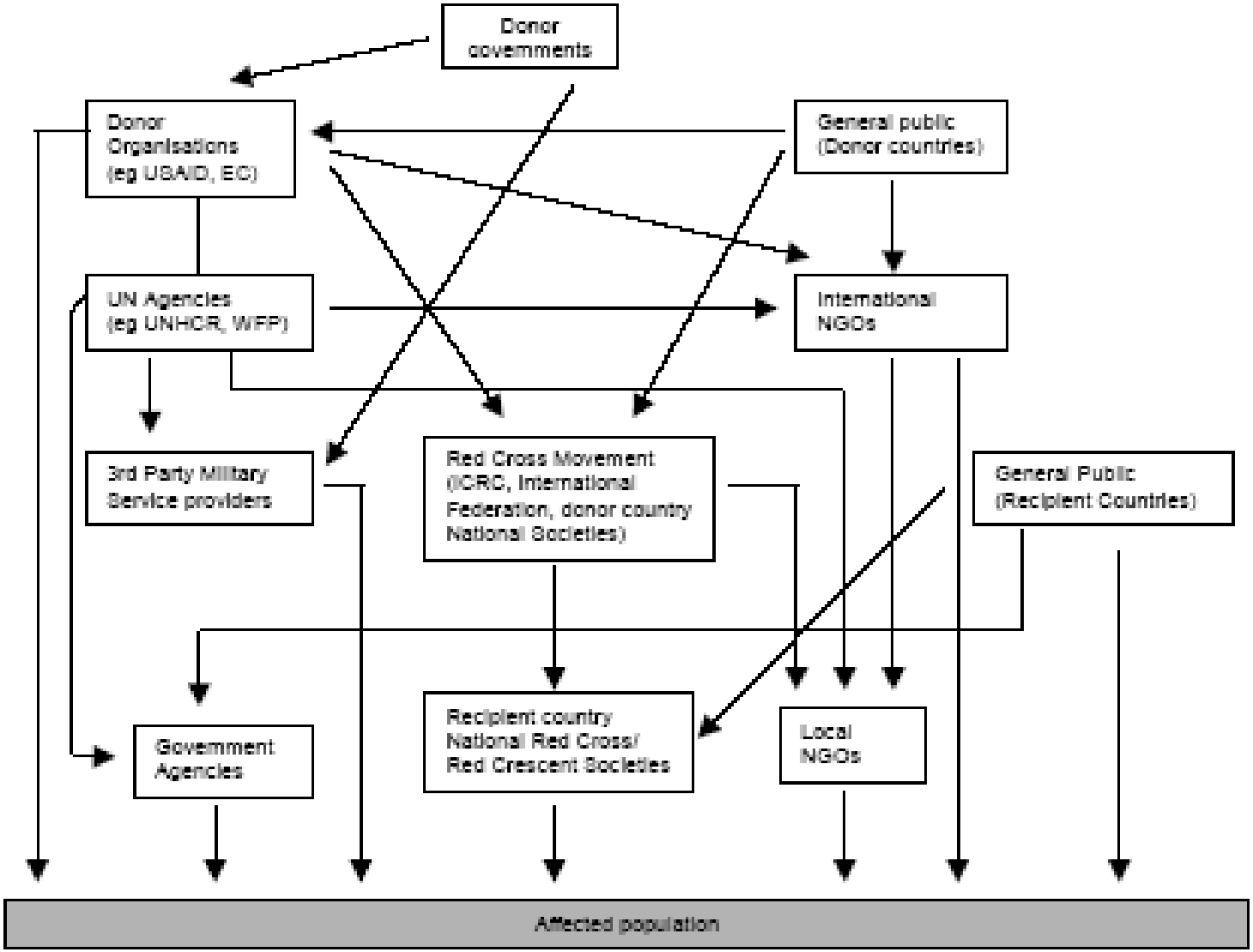
‘…where machines work well. Such approaches would be ideal where there is a straightforward task to perform, a stable context and operating environment, identical, duplicable products, and compliant, predictable and reliable parts – which includes the human ‘components’...”

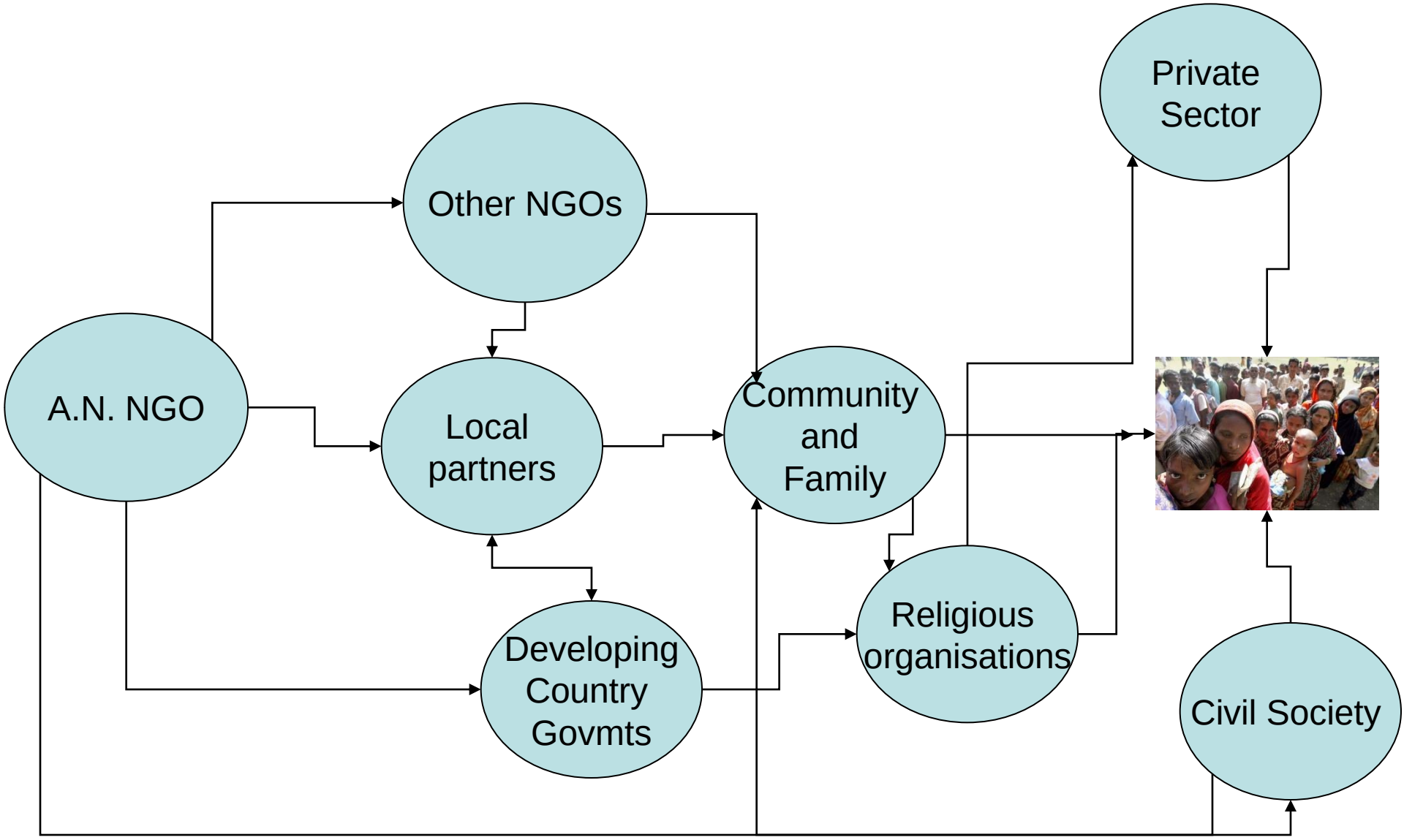
Gareth Morgan

How does this match to realities of development and humanitarian work?



And the realities of the aid system?




Private Sector
Other NGOs
A.N. NGO
Local partners
Community and Family
Developing Country Govmts
Religious organisations
Civil Society

And the attitudes of the wider world?`

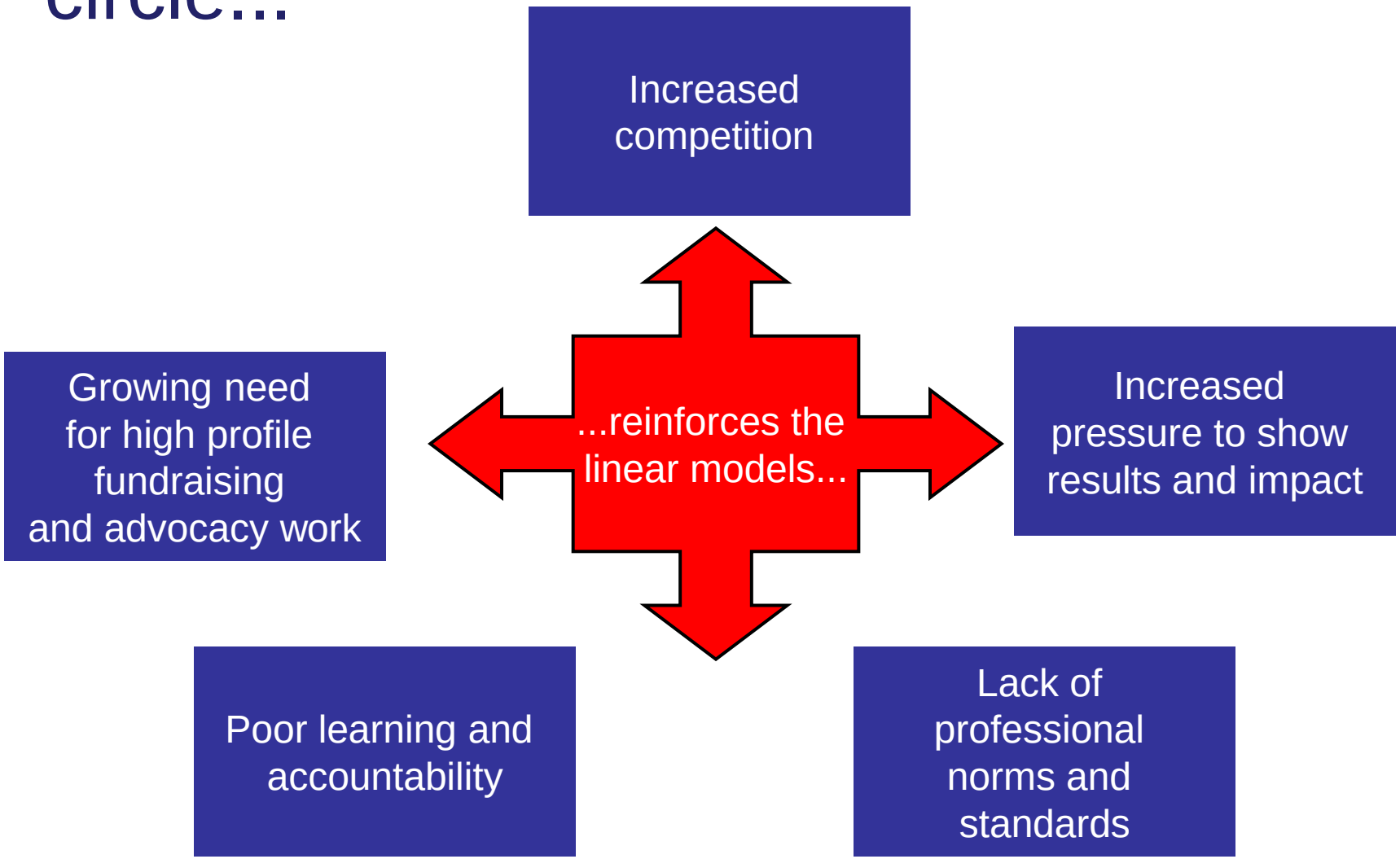
"... Aid NGOs in Iraq are force multipliers..."

Colin Powell

"...the tsunami is a fantastic opportunity to show the world we care..."

Condoleeza Rice

Modern aid organisations find themselves (a) at the centre of a vicious circle...



Modern aid organisations find themselves (b) facing difficult questions

‘… the questions faced by aid agencies... are perhaps the most complex and ill-defined questions facing humankind...’

David Ellerman

“[organisational] horror stories always seem blatantly stupid and shortsighted... [but] they are inevitable in any situation where people are encouraged to edit their understanding of reality to suit narrow purposes...”

Gareth Morgan

“...Analysts have tended to rely on analysis of interventions viewed as simple additive processes rather than complex dynamic ones...”

Elinor Ostrom

“...frequently ‘‘the’’ [aid] solution becomes ‘‘the’’ problem confronting those who supposedly have been helped...”

Elinor Ostrom

“Any kind of aid you want, as long as its what we have to give you”

“...aid agencies pay less attention to context than their colonial forerunners...”

Richard Dowden

“...we do not follow the implications of what we have come to understand, but act as if development were something else... these organisational imperatives not only make it easy for us to act as if development were something other than the complex and often opaque set of interactions that we know it to be, but also box us into a collective illusion... because of our urgency to end poverty, we act as if development is a construction, a matter of planning and engineering. While we rarely use the term engineering, we do regularly use engineering lexicon...”

Thomas Dichter

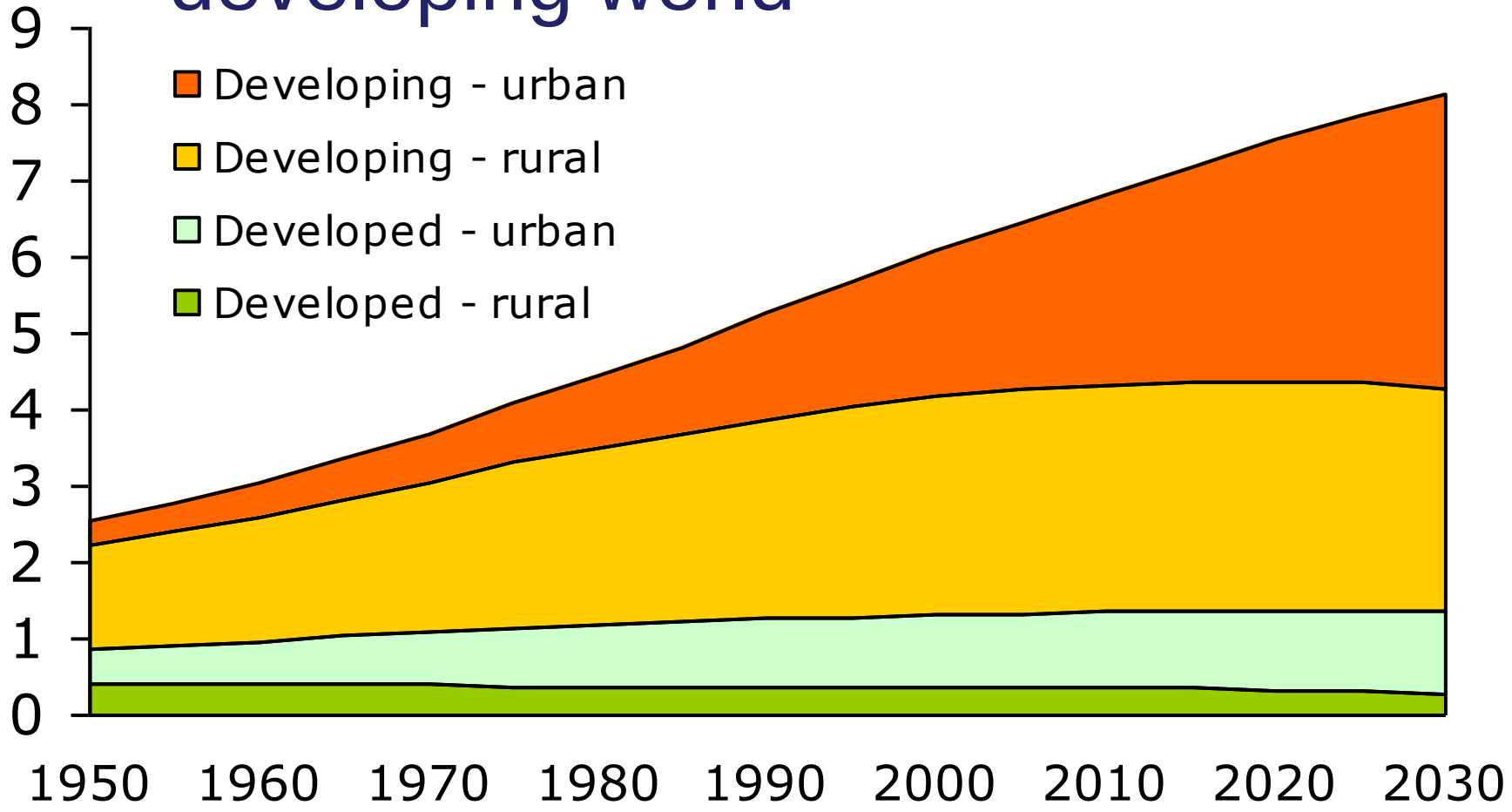
But the game is changing...

The world is getting more complex...

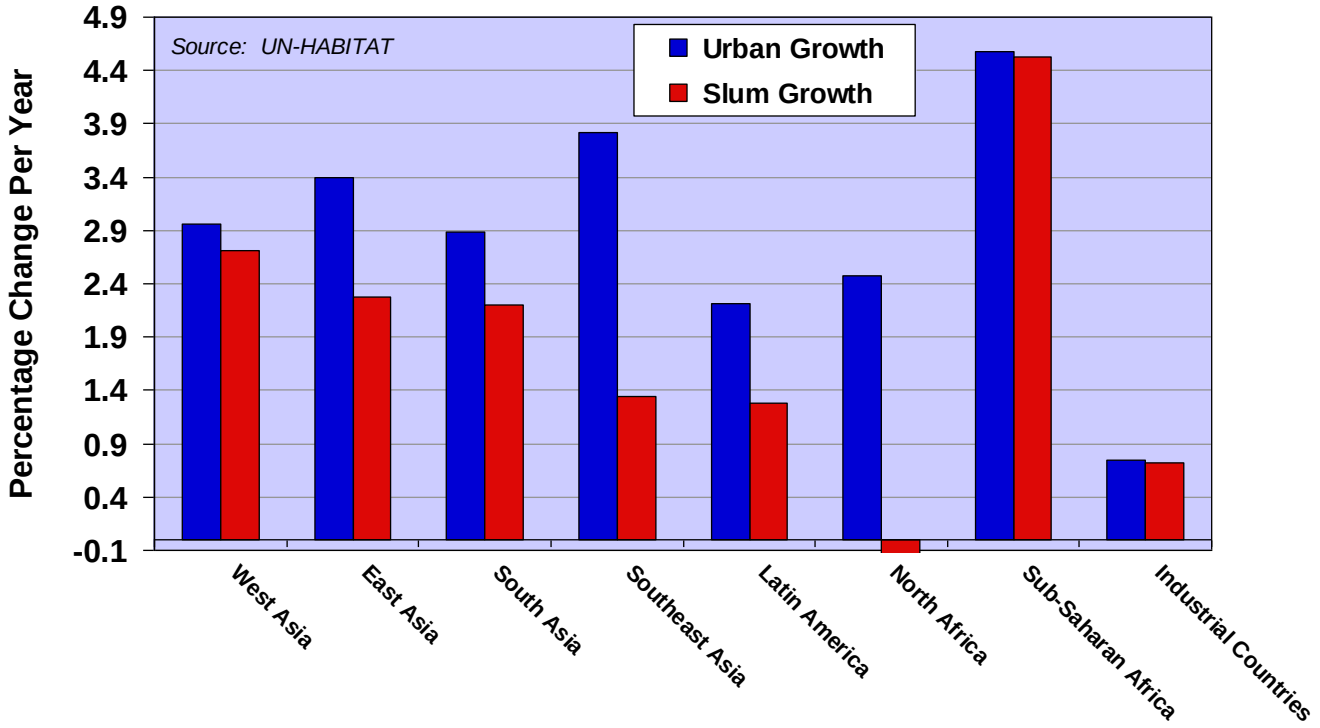
We live in a world characterised by a number of “messy problems”

- Demographics
- Urbanisation
- Migration
- Health
- Global economy
- Food
- Water
- Conflict
- Climate change and energy

Demographics - a growing and increasing urban population in the developing world



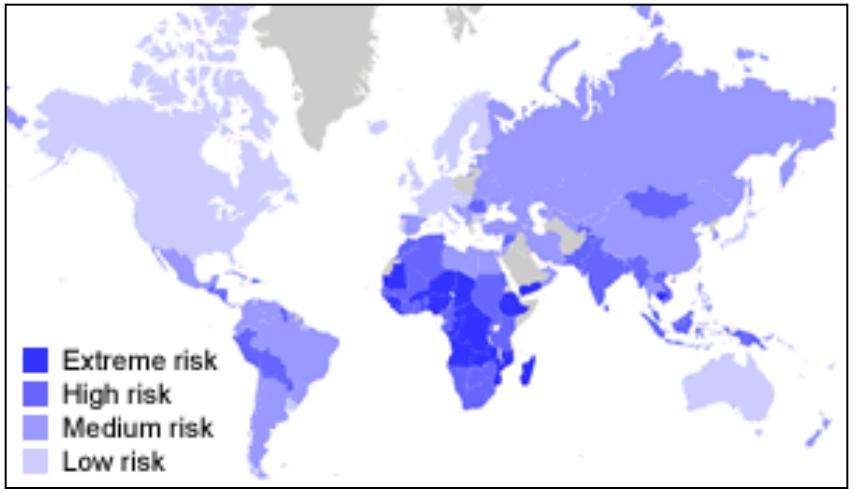
Annual Population Growth of Cities and Slums, 1990–2005



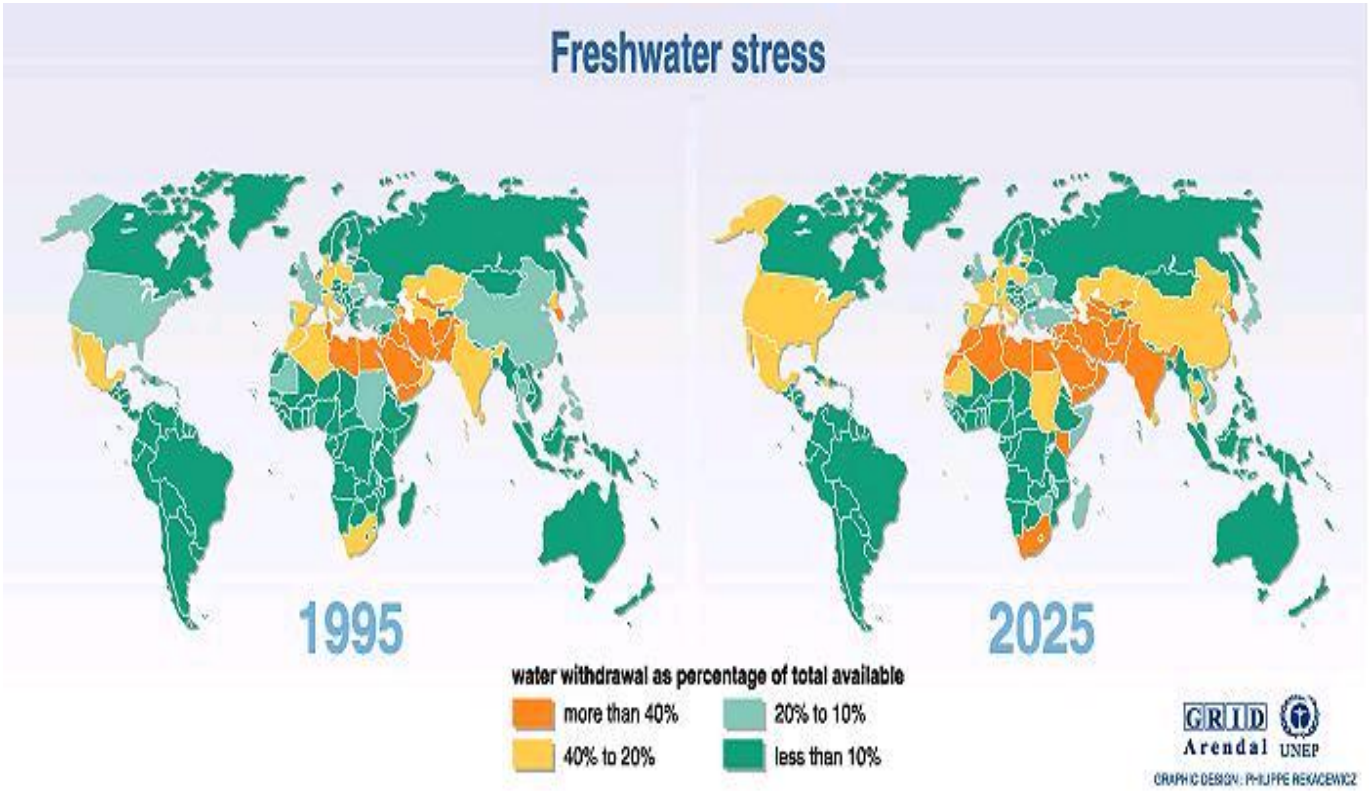
Communicable diseases pose a major threat

At risk of spreading

Capacity to contain

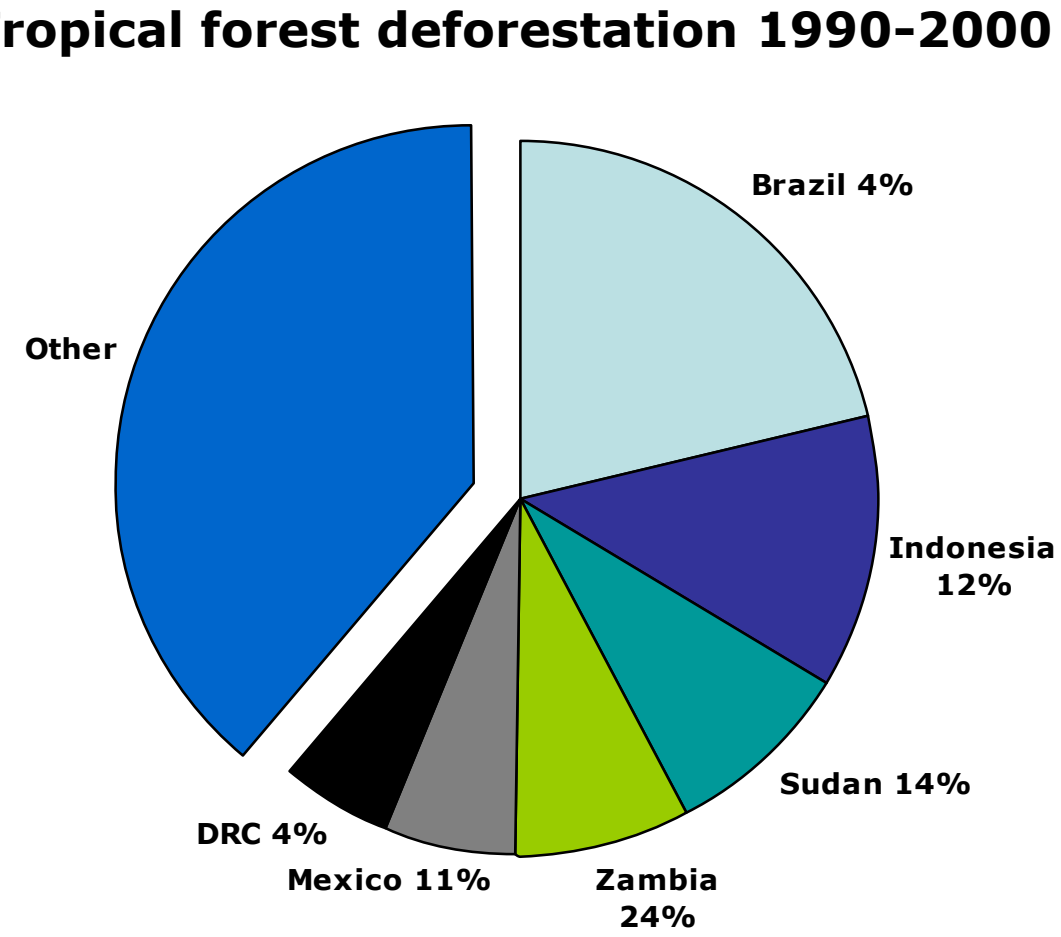


Freshwater stress is projected to increase



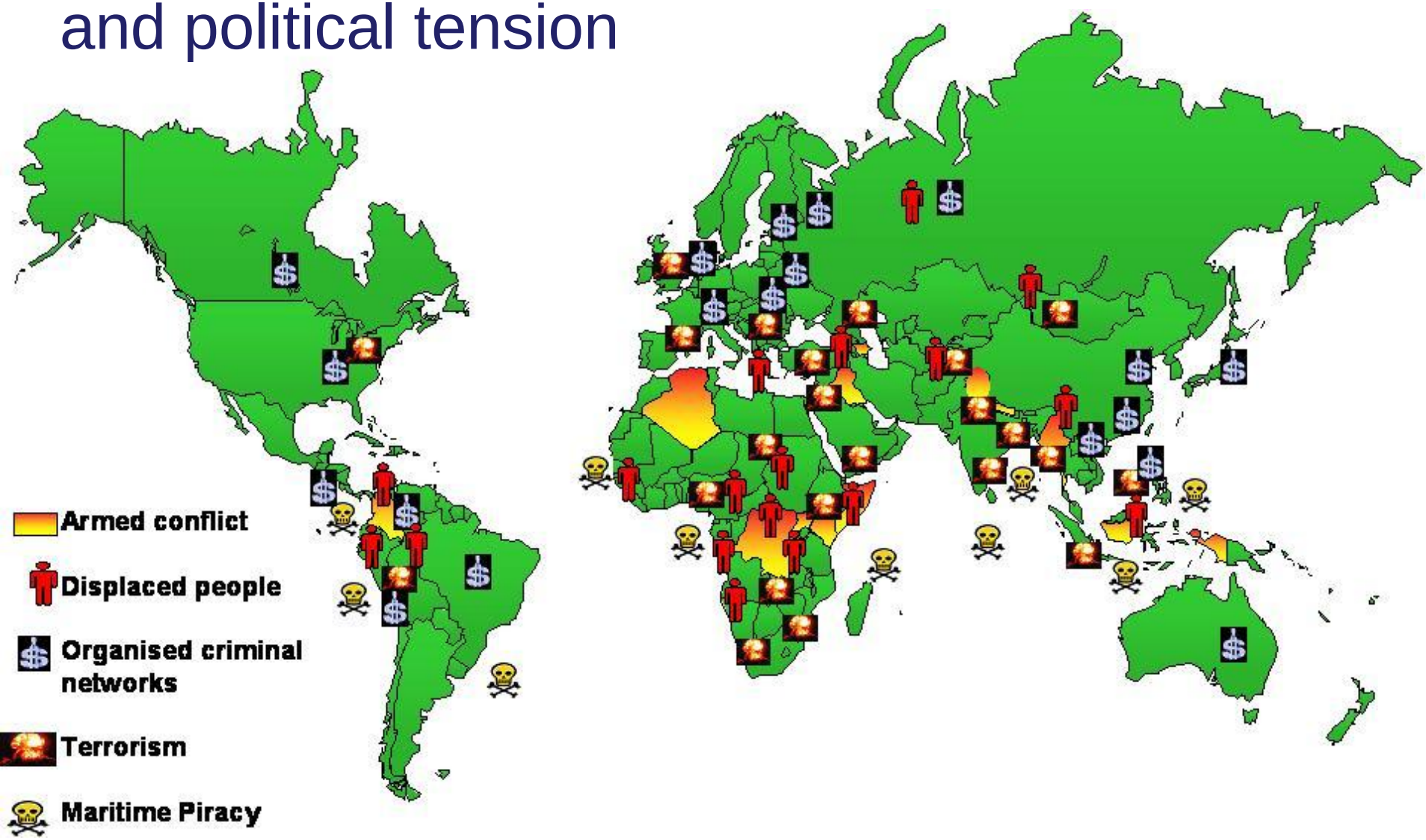
Source: Global environment outlook 2000 (GEO), UNEP, Earthscan, London, 1999.

Continued loss of global forests will have direct impacts on the poor

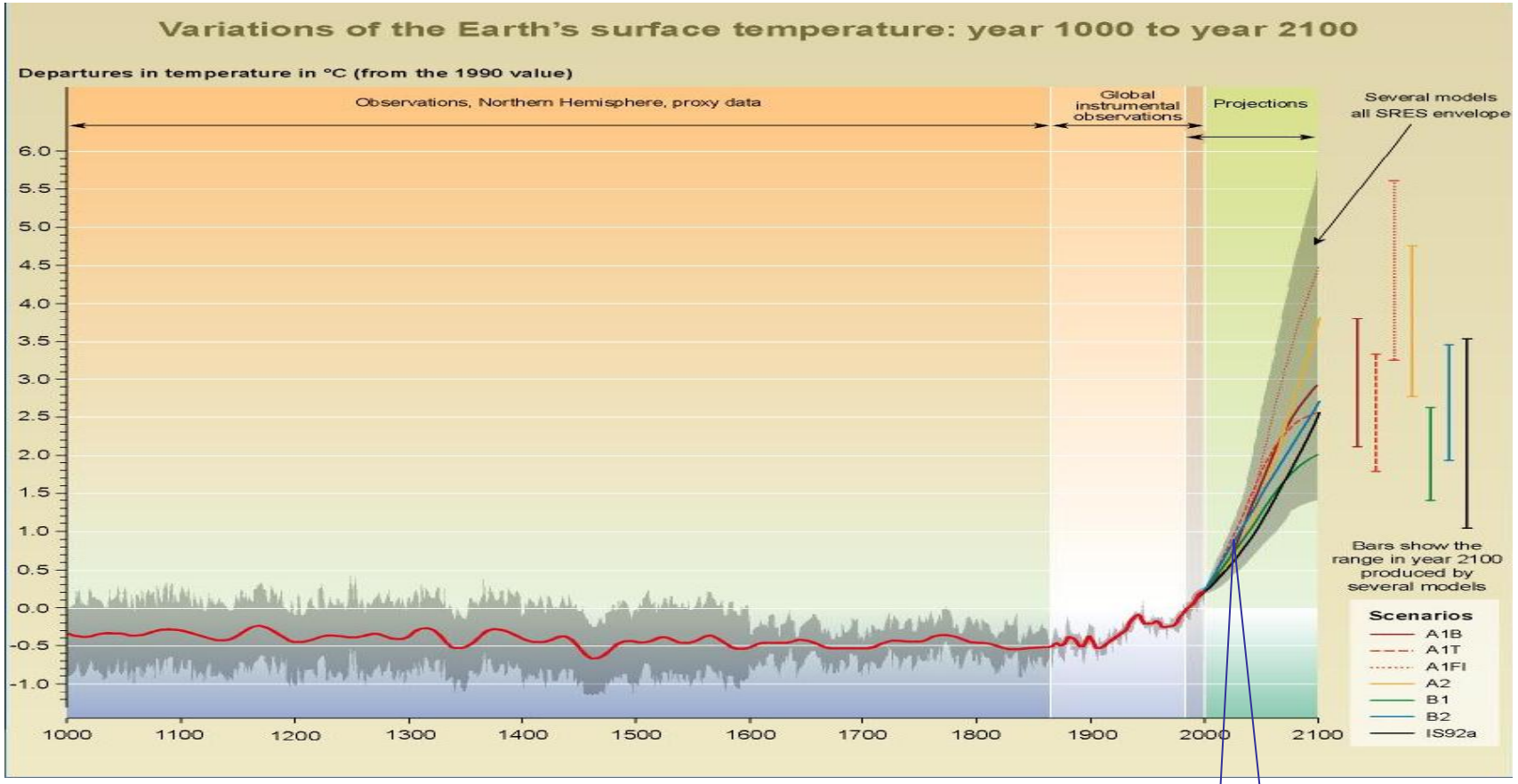


Source: Food and Agriculture Organization of the U.N.: The State of the World's Forests 2003

Risk of conflict affects many parts of Africa and Asia, driven by natural resource dependency and political tension



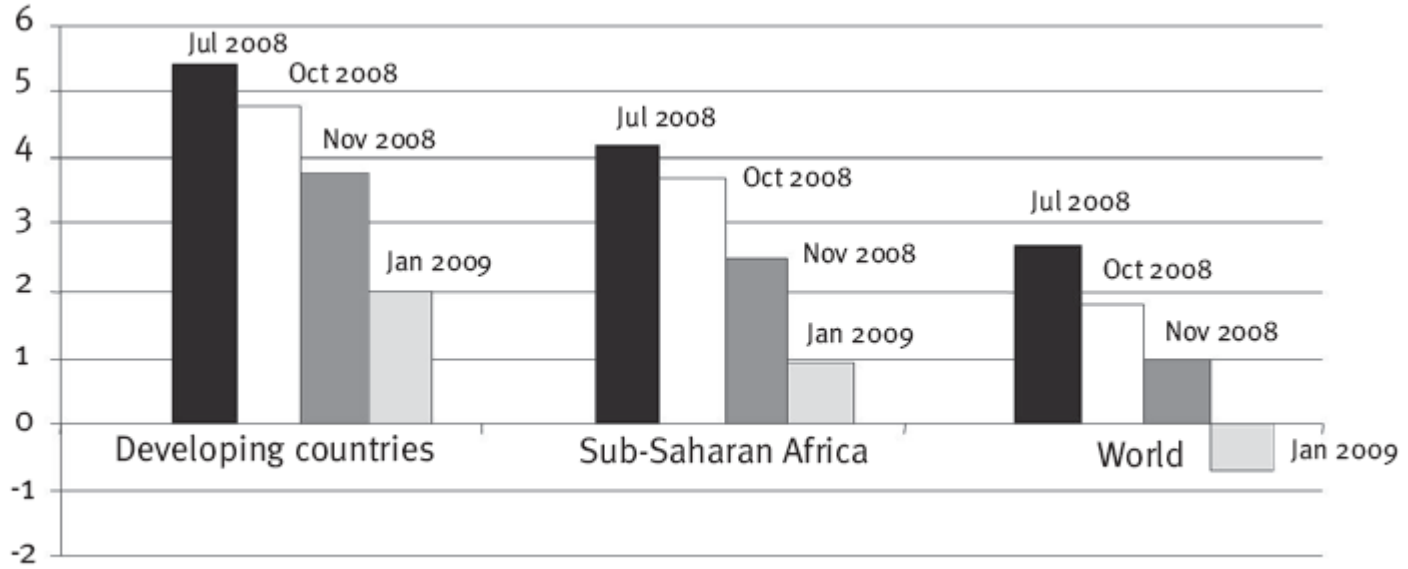
Global Climate Change looms large



Source: IPCC

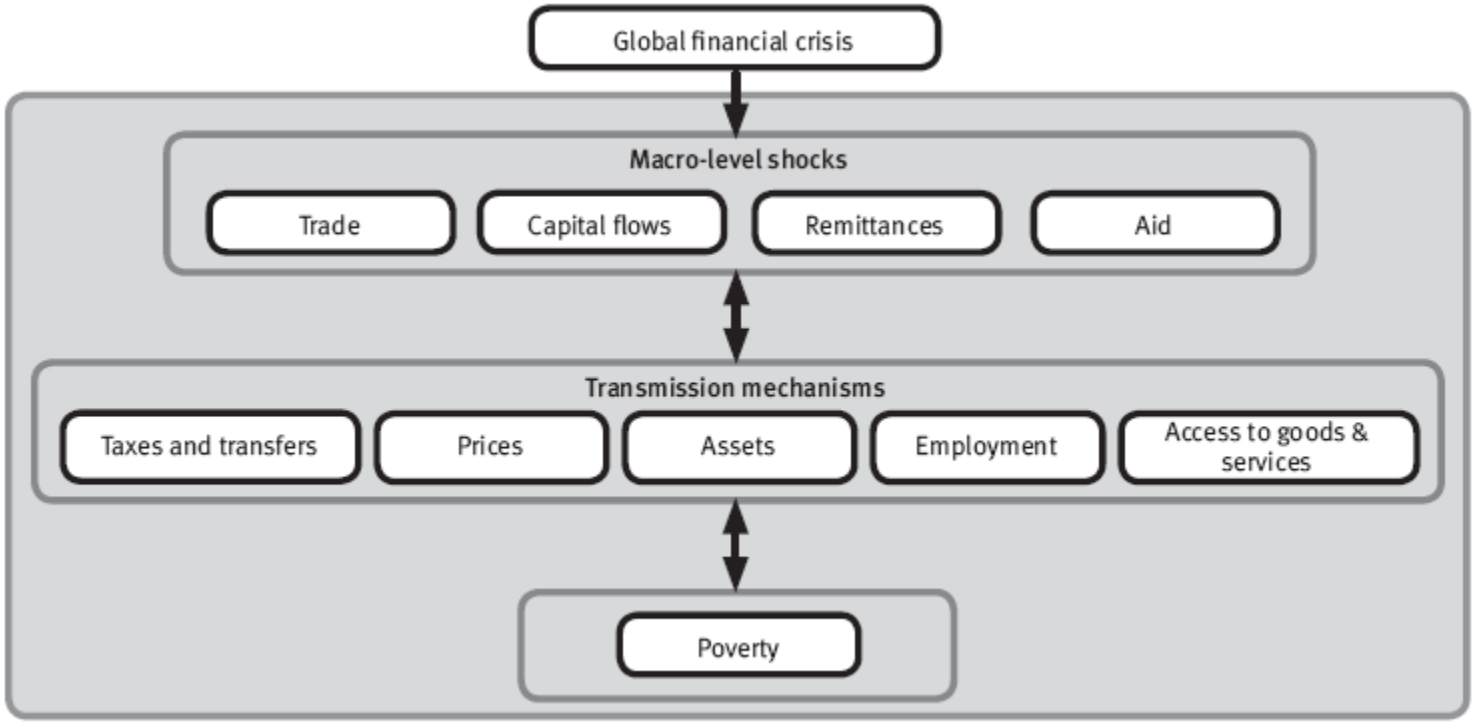
And the economy...

Revised forecasts for GDP per capita



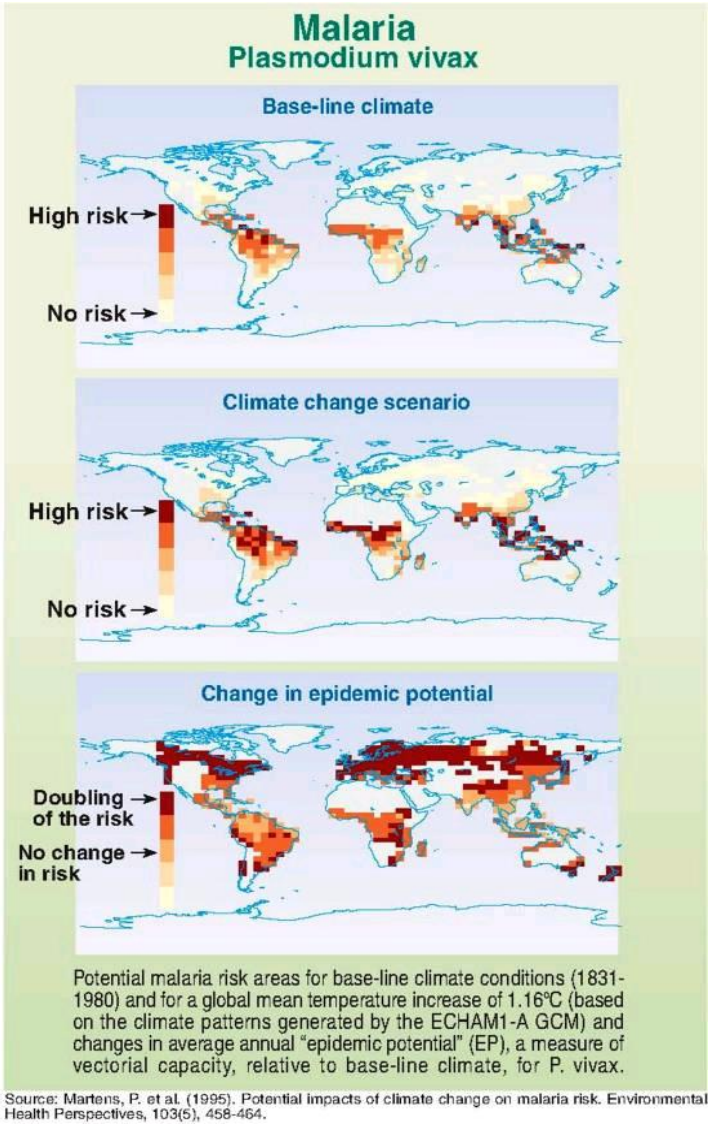
Source: IMF forecasts and own calculations, scaled for expected population growth.

Impact of global financial crisis on poverty



These problems are increasingly interconnected and interacting

Climate change and disease



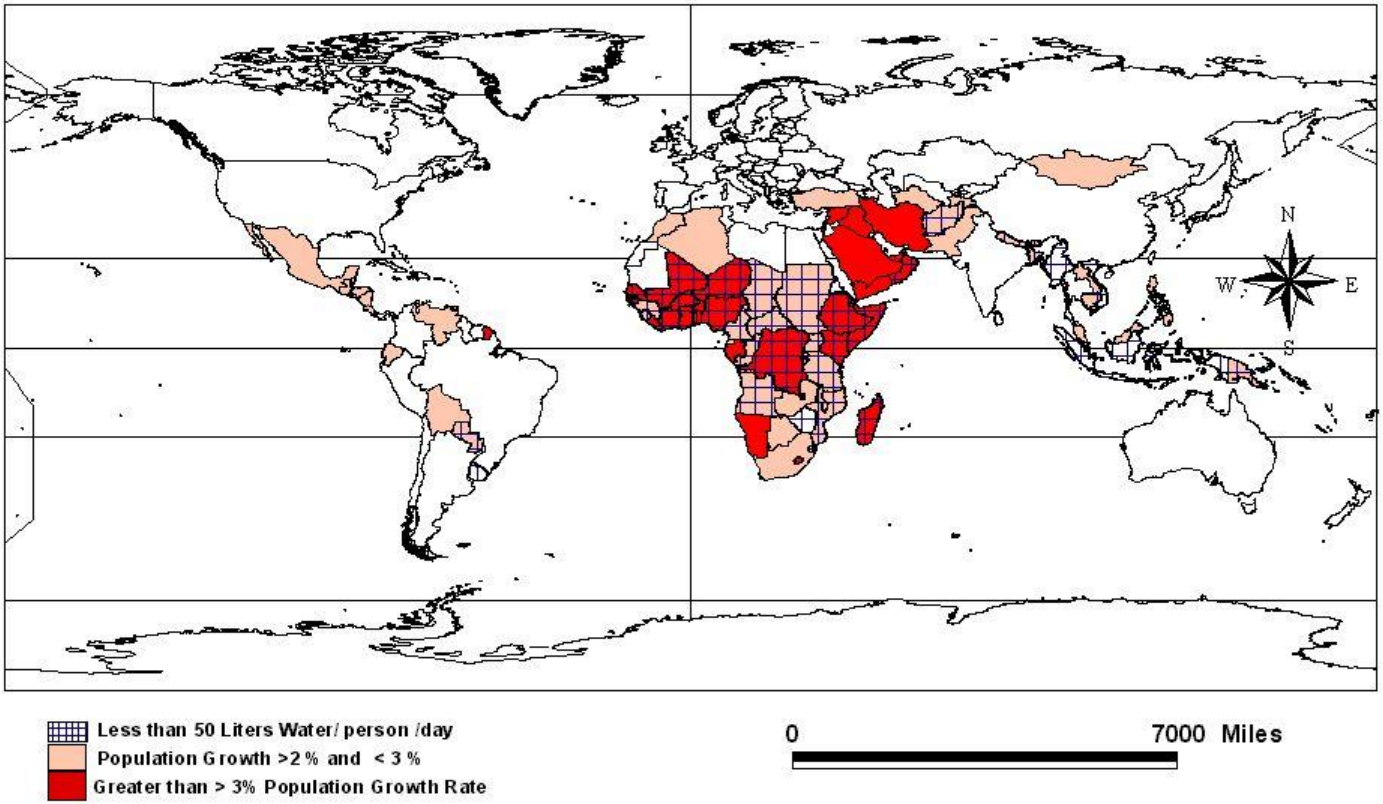
Potential malaria risk areas for base-line climate conditions (1831-1980) and for a global mean temperature increase of 1.16°C (based on the climate patterns generated by the ECHAM1-A GCM) and changes in average annual "epidemic potential" (EP), a measure of vectorial capacity, relative to base-line climate, for P. vivax.

Source: Martens, P. et al. (1995). Potential impacts of climate change on malaria risk. Environmental Health Perspectives, 103(5), 458-464.

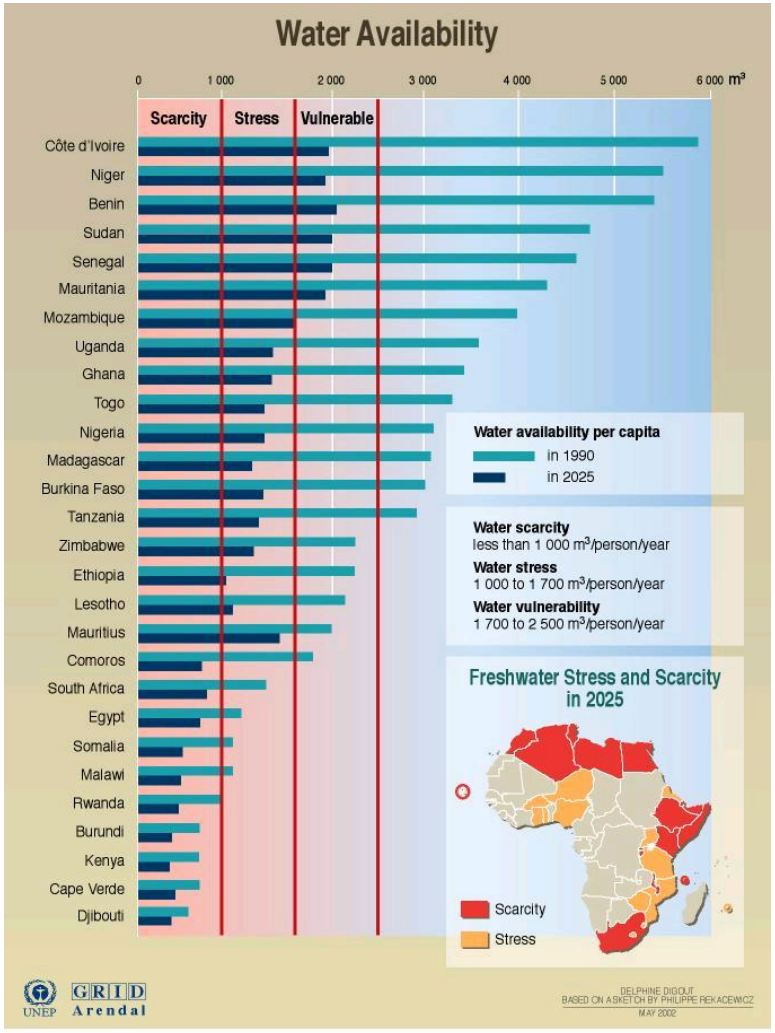
- Small changes in temperature and rainfall may support malaria epidemics in the current transmission zones
- Longer term modelling suggests the risk of malaria will double by 2080

Population growth and water scarcity

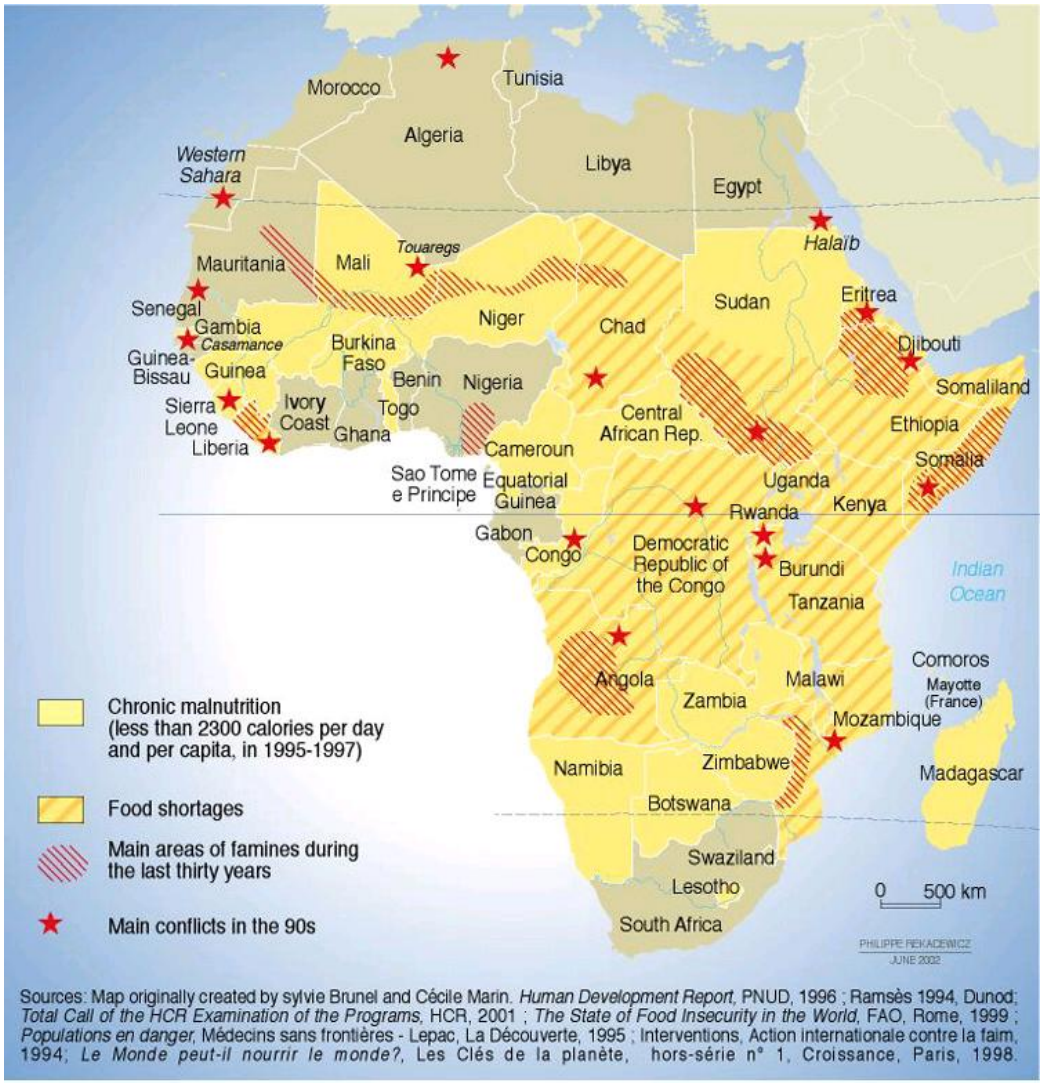
FIGURE 4 - 4
Correlation of Water Scarcity with Population Growth Rates



Water, food and conflict



Source: United Nations Economic Commission for Africa (UNECA), Addis Ababa ; Global Environment Outlook 2000 (GEO), UNEP, Earthscan, London, 1999.

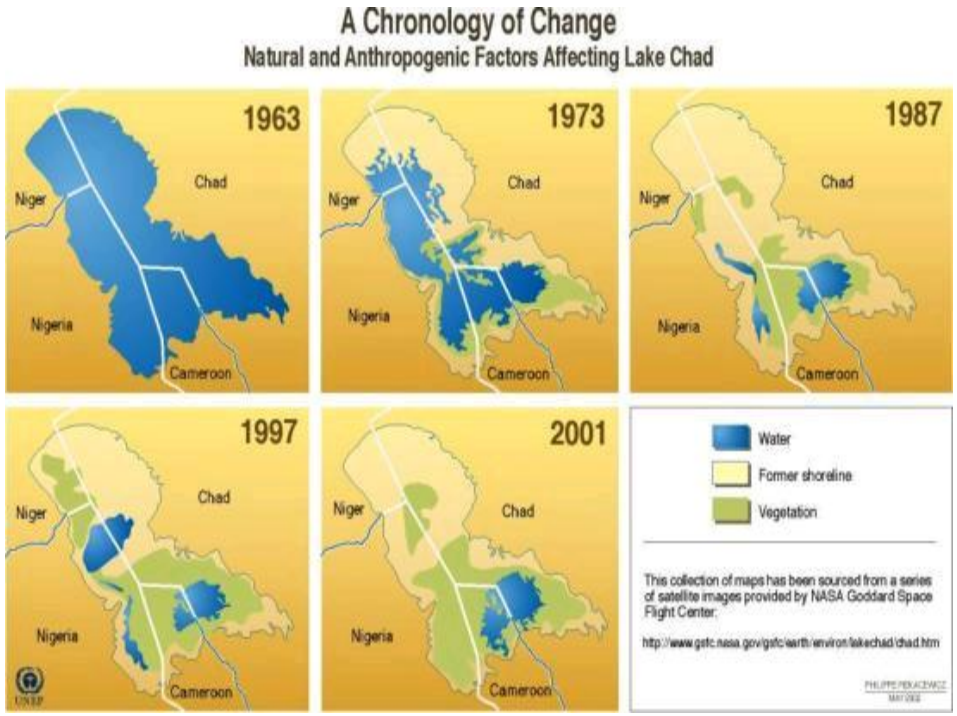


Sources: Map originally created by sylvie Brunel and Cécile Marin. *Human Development Report*, PNUD, 1996 ; Ramsès 1994, Dunod; *Total Call of the HCR Examination of the Programs*, HCR, 2001 ; *The State of Food Insecurity in the World*, FAO, Rome, 1999 ; *Populations en danger*, Médecins sans frontières - Lepac, La Découverte, 1995 ; Interventions, Action internationale contre la faim, 1994; *Le Monde peut-il nourrir le monde?*, Les Clés de la planète, hors-série n° 1, Croissance, Paris, 1998.

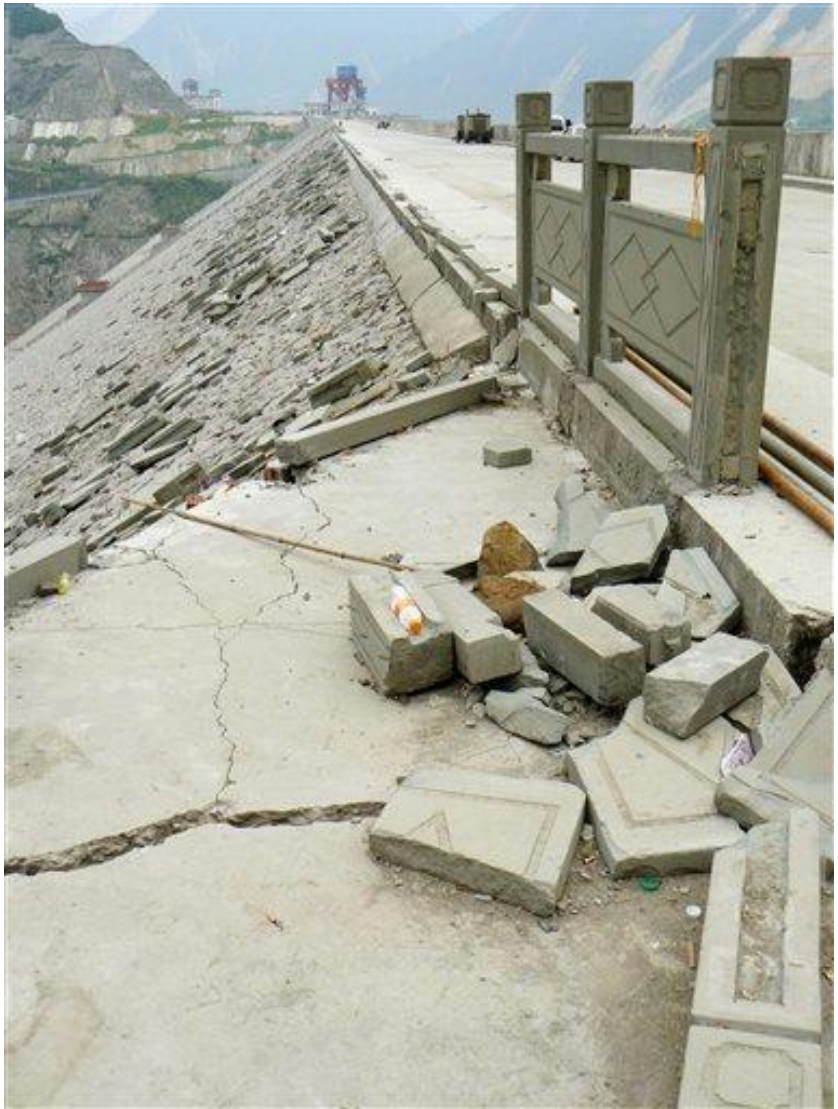
Climate change, water, energy security, conflict

- Population growth combined with climate change is likely to accentuate water scarcity in the sub-humid areas of Africa. The diagram shows the alarming shrinkage of Lake Chad – driven by high demand for irrigation and climatic change

- Increasing water scarcity may also have implications for energy security. For example, 80% of Africa's electricity is produced in thermal power stations – which use water for cooling purposes – and 4% of Africa electricity is hydro-power.

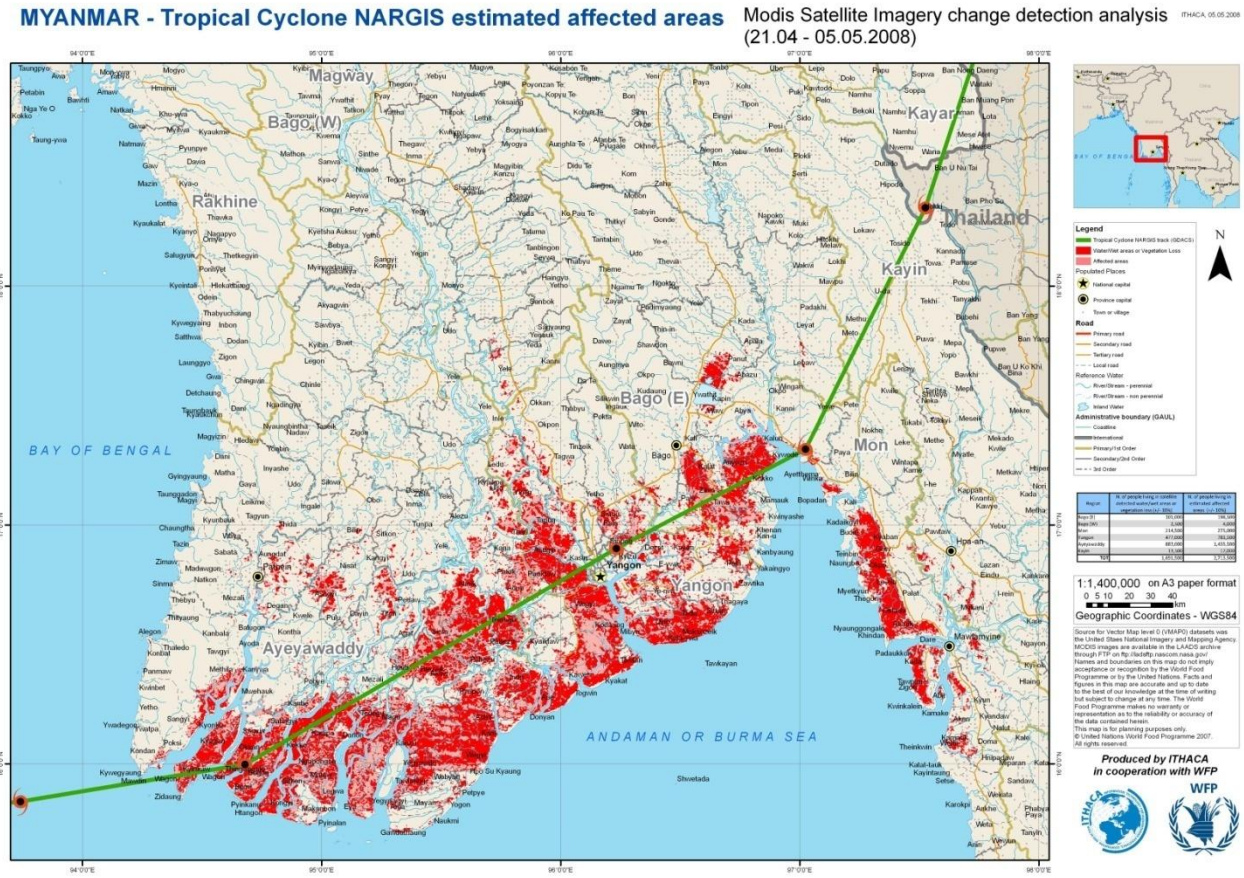


Synchronous failures



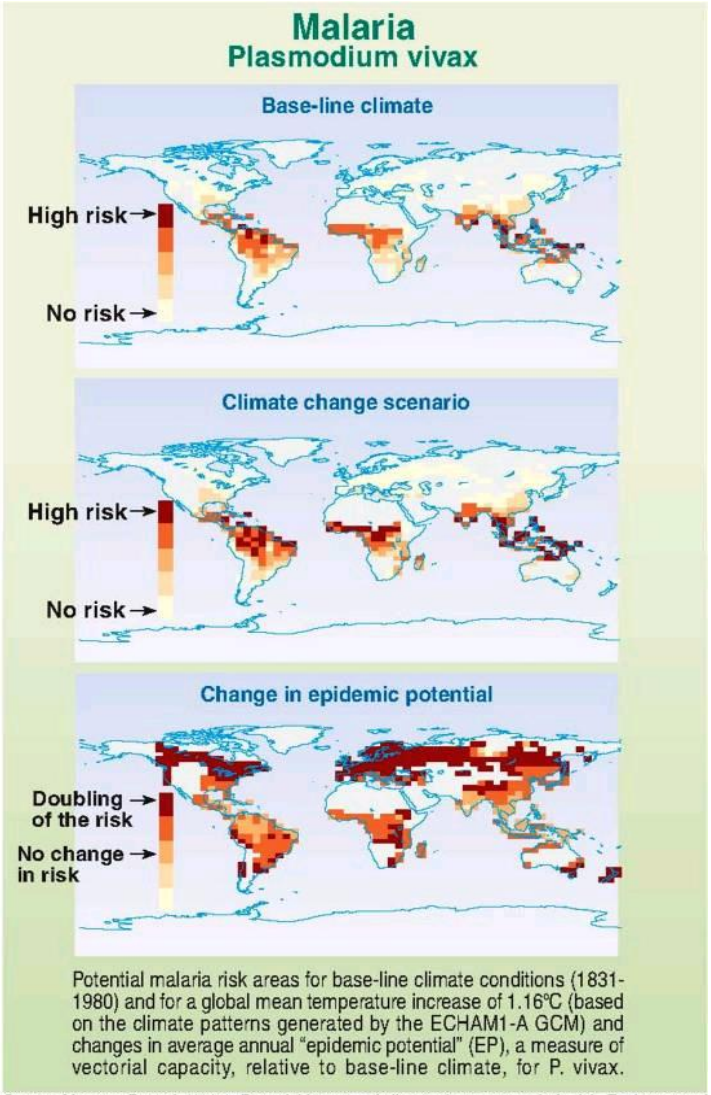
Simultaneous collapse of systems, from technical and economic, to infrastructural and societal

Cascading crises



Cascading crises like dominoes, one type of crises triggering another

Multi-hazard impacts



Potential malaria risk areas for base-line climate conditions (1831-1980) and for a global mean temperature increase of 1.16°C (based on the climate patterns generated by the ECHAM1-A GCM) and changes in average annual "epidemic potential" (EP), a measure of vectorial capacity, relative to base-line climate, for P. vivax.

Source: Martens, P. et al. (1995). Potential impacts of climate change on malaria risk. Environmental Health Perspectives, 103(5), 458-464.

Interaction between several types of disaster agents on vulnerable populations

Global-local crises

Interconnected impact of a global event upon local events and processes

“...The linear model is staggering about the global public policy stage like a mortally wounded Shakespearean actor...”

Duncan Watts

“What alternatives are there?”

Agenda

- International aid and the linear mindset
- Complexity science – origins and concepts
- Implications for aid
- Aid on the edge...
- Summary

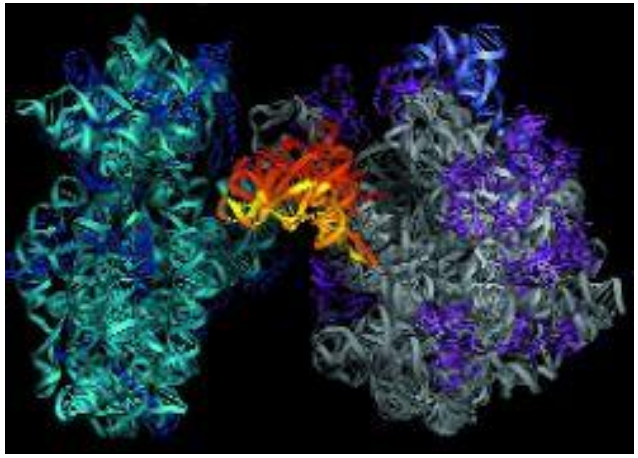
What *are the* complexity sciences?

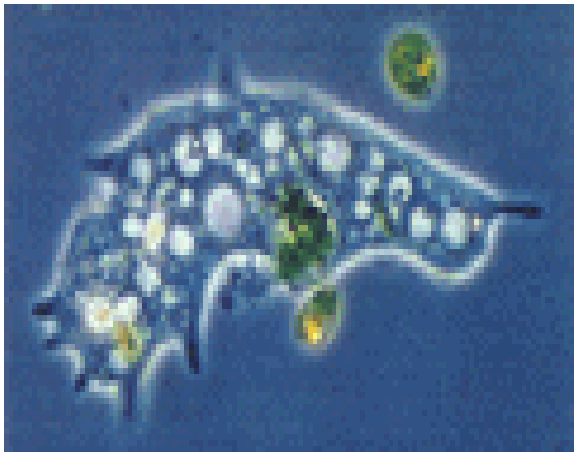
Complexity science is a collection of ideas focused on understanding the dynamics of change in different natural systems

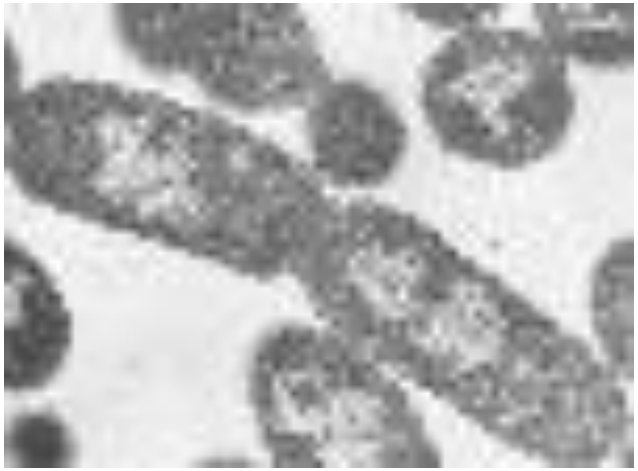
- A loosely bound collection of ideas, principles and influences from a number of other bodies of knowledge, including
  - chaos theory
  - fractal geometry
  - cybernetics
  - complex adaptive systems
  - postmodernism
  - systems thinking

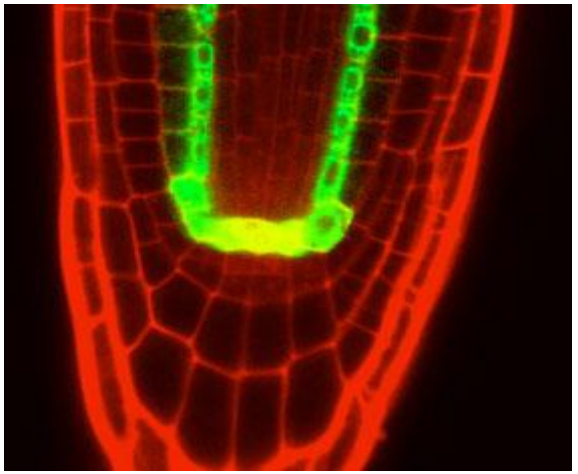
From chemical reactions…

Genetics and cells…

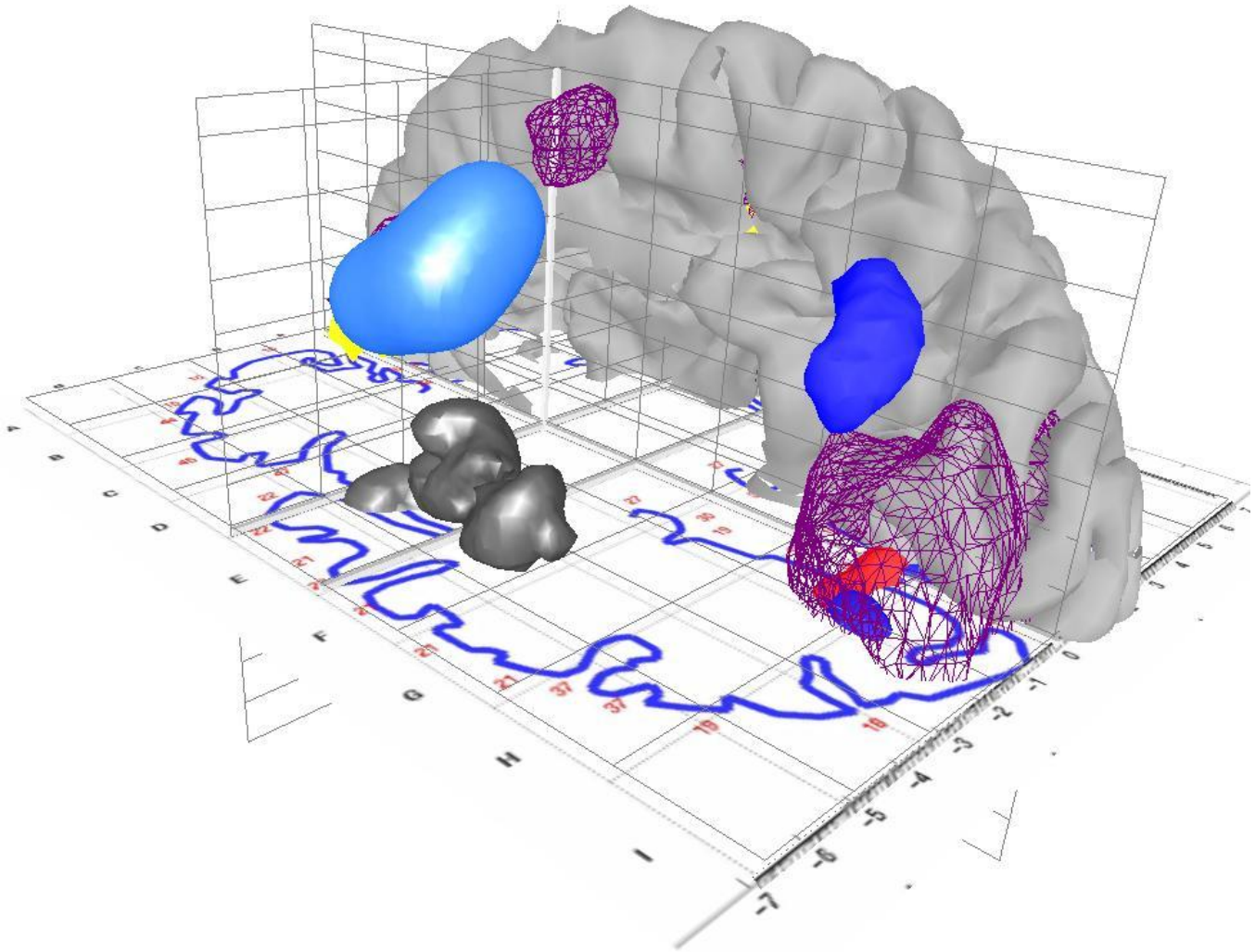




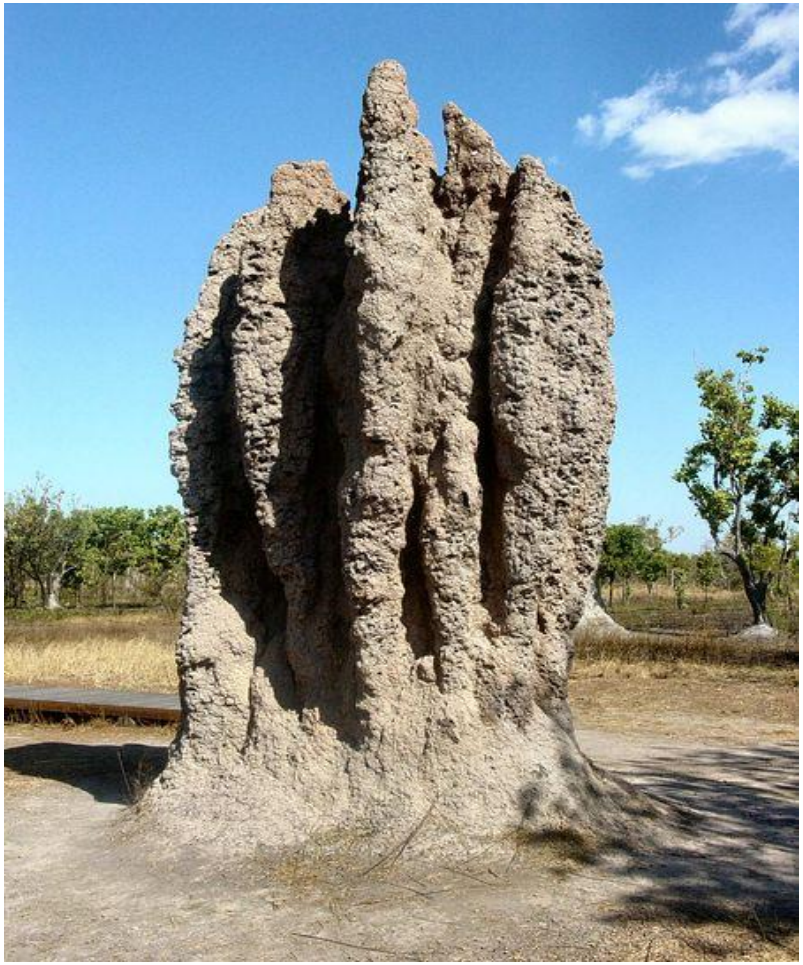




How the brain works…



Animal populations and social structures…

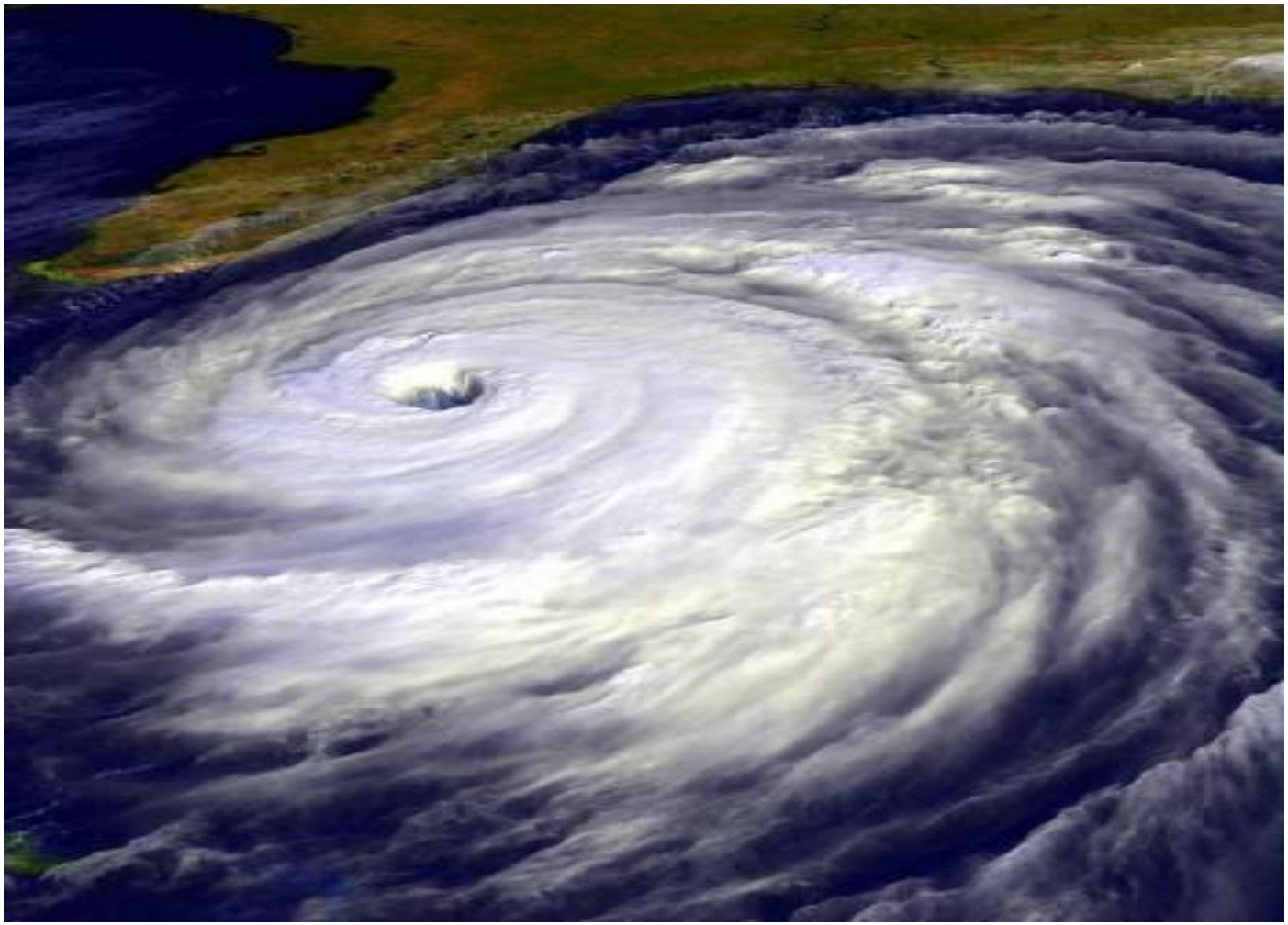


Ecosystems

Human settlements…

Financial markets...

The formation of cyclones...



The evolution of galaxies...

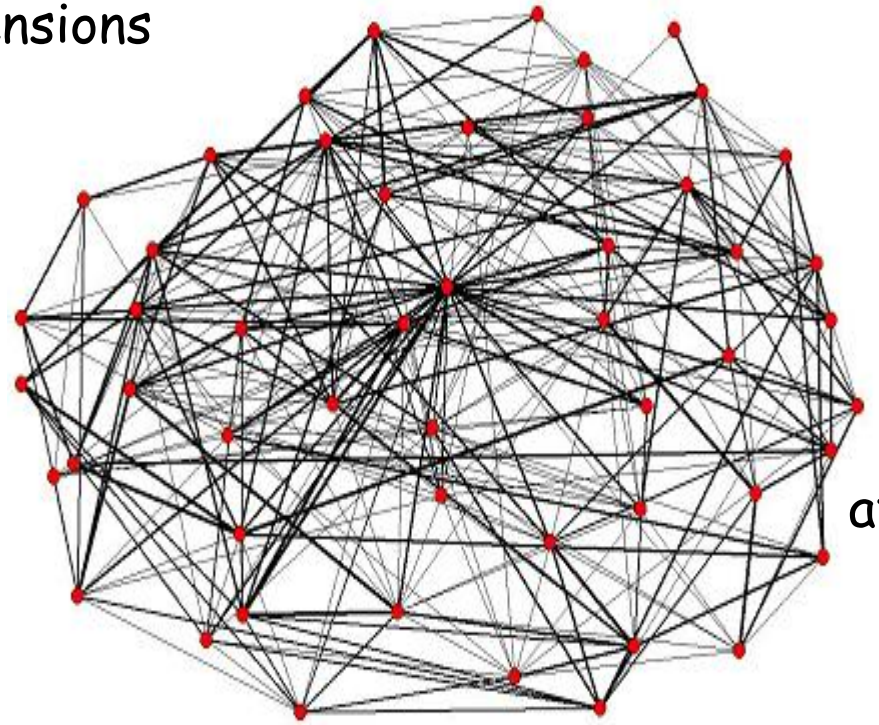
Complexity is not a building of knowledge (cf basis, foundations, pillars...)

It is a *network* of connected ideas and concepts….

1 Interconnected and interdependent elements and dimensions

2 Feedback processes

3 Emergence from Simple Rules



4 Non-Linearity

5 Sensitivity to initial conditions

6 Phase space and attractors

7 Strange attractors and the edge of chaos

8 Adaptive Agents

9 Self organisation

10 Co-Evolution

Complexity scientists use a range of ideas and concepts (familiar, challenging and baffling) to make distinctions between **simple**, **complicated** and **complex** systems and phenomena

Assumptions of complexity

- **Features of systems:** multiple, nested levels of interconnected systems, dynamic feedback between the organisation and its environment, emergent rather than planned change
- **Dynamics and nature of change:** non-linearity, surprises and unexpected outcomes, the “space for possible change”, sensitivity to intial conditions
- **People, motivations and relationships:** incentives and interactions among adaptive individual agents, self-organisating relationships, informal / shadow coalitions, co-evolution of organisation and environment

(Compare with the linear model)

- Assumptions about systems
  - Ordered
  - Reductionist - parts would reveal the whole
- Assumptions about how systems change
  - Linear relationships
  - influence as direct result of force from one object to another - predictable
  - Simple cause & effect
- Assumptions about human actions
  - Rational choice
  - Behavior specified from top down
  - Certainty and “knowability”

Efforts to apply ideas outside the natural sciences are growing

- Krugman, Arthur, Ormerod, Beinhocker - Economics
- Stacey, Mitleton-Kelly, Snowden, Eoyang, Wheatley, Allen – Organisations, Business
- Jervis, Urry, Cutler, Rihani - Intl relations and globalisation
- De Mancha - History
- Gilchrist - Community development
- Education policy - Sanders and McCabe
- Health policy - Zimmerman
- Government reform - Chapman
- Strategic thinking - Saunders

There are different perspectives on the value of complexity science

- Deep paradigmatic insights
  - Champions (quantitative and qualitative)
    - Self-styled radicals and “Appliers”
- Interesting parallels and useful approaches, but not the only way to see things
  - Pragmatists
- Meaningless coincidences
  - Critics

Perspective generally depends on…

- The applicability of ideas from natural sciences outside are of origin
- How far complexity is seen as providing a way of moving away from the linear machine metaphor
- The alternatives to complexity, and whether they are less “perplexing”

There are a number of common criticisms...

- Theoretical: adds nothing new
  - E.g. the ideas of complexity science have all been identified elsewhere
  - But complexity does brings them together
- Supports managerial “snake-oil” / “complexologists” / re-warmed ideas
  - E.g. is abused and misused
  - What isn’t?
- Political: emergence and self organisation support neo-liberal stances
  - But just because self-organisation happens, doesn’t mean it is good
    - Credit crisis
    - Rwandan genocide
  - Complexity is more centre-ground, for example, “edge of chaos” systems are seen as most robust and resilient because are the optimally combination of control and flexibility
- Practical: doesn’t specify what should be done
  - E.g makes no specific recommendations as to how best to act in complex systems; Complexity leads to perplexity

Complexity concepts are not about "*what you dos*", but about "*how you dos*" – *new interpretive frameworks*

- Perceived source of weakness is the source of strength
  - Not "solutions <u>for</u> problems", but "approaches *to* problems"

- They point to the personal, professional, institutional, political <u>*mindsets, attitudes and conditions*</u> which need to be in place to work effectively in and with complex systems

- Ideas for furthering understanding, for opening up new ways of seeing and thinking
  - **<u>New interpretive frameworks</u>**

...and interpretive frameworks are more important than is commonly believed

- May 2003 *Harvard Business Review* "The High Cost of Accuracy" Kathleen Sutcliffe and Klaus Weber

  They concluded that "the way senior executives interpret their business environment is more important for performance than how accurately they know their environment."

  “interpretive capacity, or "mind-sets," distinguish high-performance more than data quality and accuracy.”

Agenda

- International aid and the linear mindset
- Complexity science – origins and concepts
- Implications for aid
- Aid on the edge...
- Summary

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- International aid – some issues
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- Summary

In aid and development, ideas have been utilised at a relatively slow pace, but are growing...

- Uphoff, 1990s
- Chambers, 1997
- Sellamna, 1999
- IDRC, Outcome Mapping, 2001
- Warner, 2001
- Rihani, 2002
- Lansing and Miller, 2003
- Inclusive Aid, 2004
- ECDPM, 2004-06
- Eyben, 2006
- Guijt, various
- Davies, Network Analysis, various
- Cosstick, various
- Ramalingam et al, 2008
- Fowler, 2008
- HFP, 2009
- Hendricks, 2009
- Ekboir, 2009
- Land, 2009
- Woodhill, 2009
- Huppert, 2009

Visit:

www.aidontheedge.info/publications

to access many of these

“Exploring the science of complexity: ideas and implications...”

- Primary aim was to explore the potential value of complexity science for those who work on change and reform initiatives within the aid sector
- Drew on scientific and experimental literature – physiology, physics, mathematics, public sector reform, sociology, economics, organisational theory, plus case studies, reports and evaluations from the aid sector
- Reviewed over 250 articles, books, reports and evaluations
- 10 peer reviewers, including Sean!
- Published February 2008
- Available to download from www.odi.org.uk

What, if anything, does complexity science imply for development and humanitarian work?

1. nature of systems

2. nature of change

3. nature of actors

Complex systems have interconnected and interdependent elements and dimensions

- Complex systems are **interconnected and interdependent** to different degrees. **Interconnectedness** may occur between any elements, dimensions, systems and environments

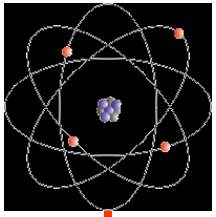
- This **interconnectedness** leads to **interdependence** between the elements and the dimensions of a system, and gives rise to complex and chaotic behaviour

- Complex systems can be **tightly or loosely coupled, internally and with their environment**, giving rise to different kinds of complex behaviours
  - Tightly coupled: Global FOREX markets
  - Loosely coupled: University systems, global construction industry

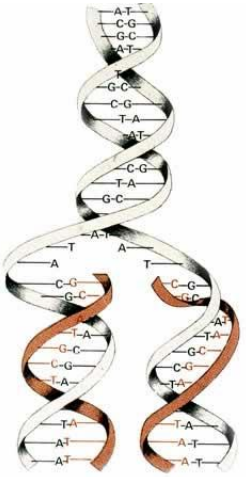
- Systems can be **better** understood via **mapping techniques followed by analysis to understand the dynamics and interactions** of change

Complexity is “nested”

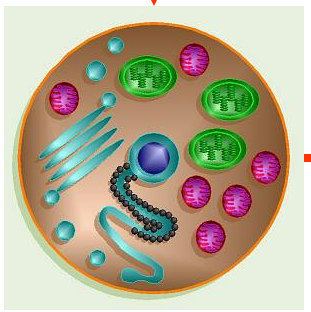
Atom



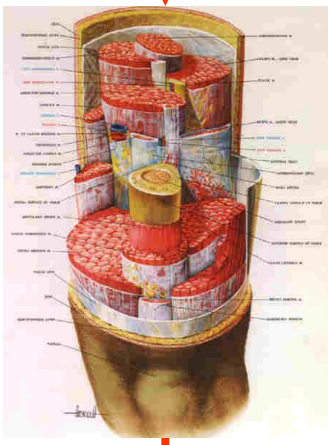
Molecule



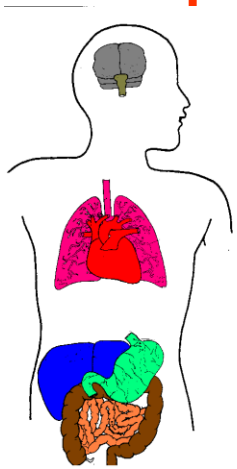
Cell



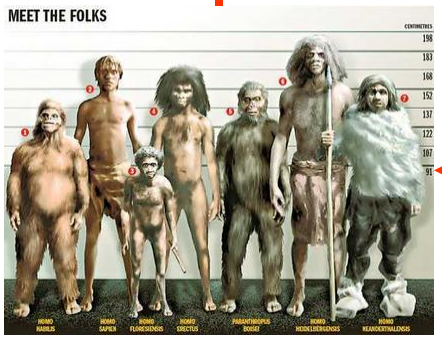
Tissue



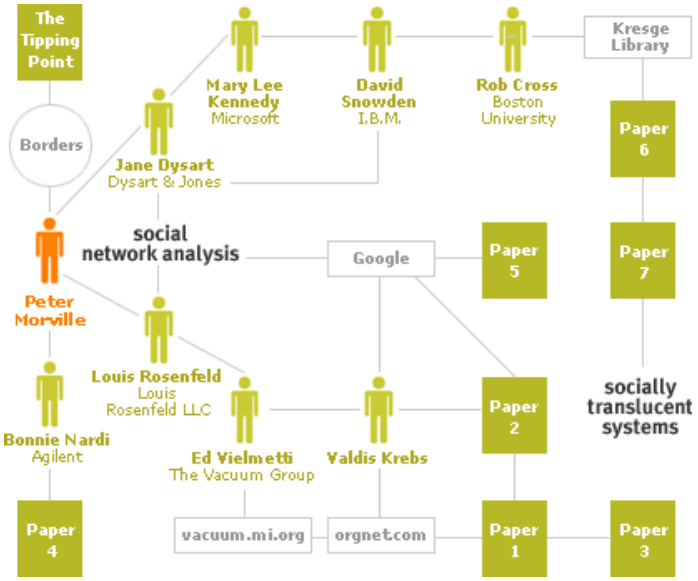
Organs



Organisms



Communities

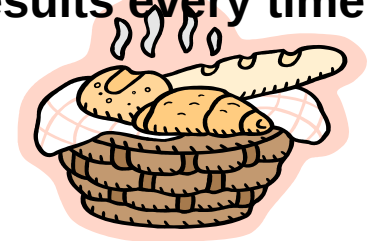


The interconnectedness of real world systems is often not recognised or acknowledged

Simple (Puzzle)

Following a Recipe

- The recipe is essential
- Recipes are tested to assure replicability of later efforts
- No particular expertise; knowing how to cook increases success
- Recipe notes the quantity and nature of "parts" needed
- Recipes produce standard products
- Certainty of same results every time



Complicated (Problem)

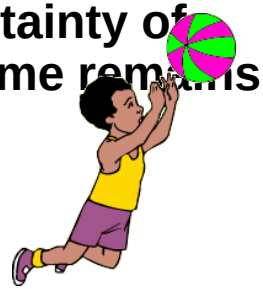
A Rocket to the Moon

- Formulae are critical and necessary
- Sending one rocket increases assurance that next will be ok
- High level of expertise in many specialized fields + coordination
- Separate into parts and then coordinate
- Rockets similar in critical ways
- High degree of certainty of outcome

Complex (Mess)

Raising a Child

- Formulae have only a limited application
- Solving one problem gives no assurance of success with the next
- Expertise can help but is not sufficient; relationships are key
- Can't separate parts from the whole
- Every problem is unique
- Uncertainty of outcome remains



“Some of the greatest mistakes are made when dealing with a mess, by not seeing its dimensions in their entirety, carving off a part, and dealing with this part as if it were a problem, and then solving it as if it were a puzzle, all the while ignoring the linkages and connections to other dimensions of the mess”

Russell Ackoff

The extent of interconnectedness and interdependence (messiness) becomes most visible during crises (e.g. when it is too late...)

- September 11th
  - Globalisation and terrorism
- Credit crunch
  - US mortgage market mis-selling and the world economy
- Food price crises
  - Biofuels, speculation and food prices
- Climate change
  - Western consumerism and Southern disasters
- Transportation
  - Volcanic ash and airlines

- **Underlying these crises is the lack of attention to differing perspectives and their interconnectedness**

Biases towards simple ways of interpreting the world retain their grip on aid policy and practice

- In much modern public policy and practice, there is a bias towards the simple
  - real-world, complex, messy nature of systems is frequently not recognised
  - simple solutions are applied to complex messes
  - “practical people, who consider themselves devoid of any theoretical concerns, and often slave to some defunct economist”

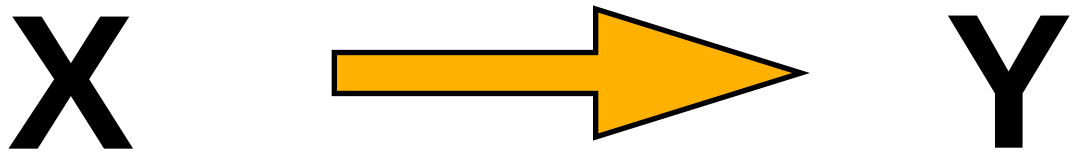
Implications: analyse and deal with the complex realities and dynamics of the aid system

- **Interdependence and interconnectedness of aid problems should be recognised** by those designing and evaluating aid interventions and appropriate measures taken
  - At the moment, “convenient shorthand” dominates, and complexity and mistakes are glossed over
- **Messes, problems and puzzles need to be dealt with using relevant approaches** – rational planning models are useful in some limited settings, other tools can also be of use
- Role of grand designer should be avoided in favour of the **role of facilitation, orchestration and creating enabling environments for emergent change**

What, if anything, does complexity science imply for development and humanitarian work?

1. nature of systems
2. nature of change
3. nature of actors

Many aid planning frameworks model change as **linear**, based on a cause-effect relationship



Linear, Predictable

Focused on the end result

The program (X) gets the credit!

A number of commonly held assumptions are based on linear thinking

- Assumptions
  - Change can be focused on specific areas, holding all other things constant
  - Changes are proportional to the input
  - Changes are additive

- In an interconnected and interdependent system, small events may trigger huge effects, huge efforts may have negligible effects

Assumptions of linearity (1)

- Independent variable - ‘holding all other things constant’, apart from the variable you want to work on

- Ideas and propositions tested by making comparisons between two situations which are identical except for that one variable
  - in complex system of interconnected and interrelated parts, with feedback loops, adaptive agents and emergent properties, “holding all other things constant” is almost impossible
  - everything else cannot be held constant and there is no independent variable
  - impossible to look at ‘just one thing’, or to make only one change, hence to look at a situation involving just one change is unrealistic.

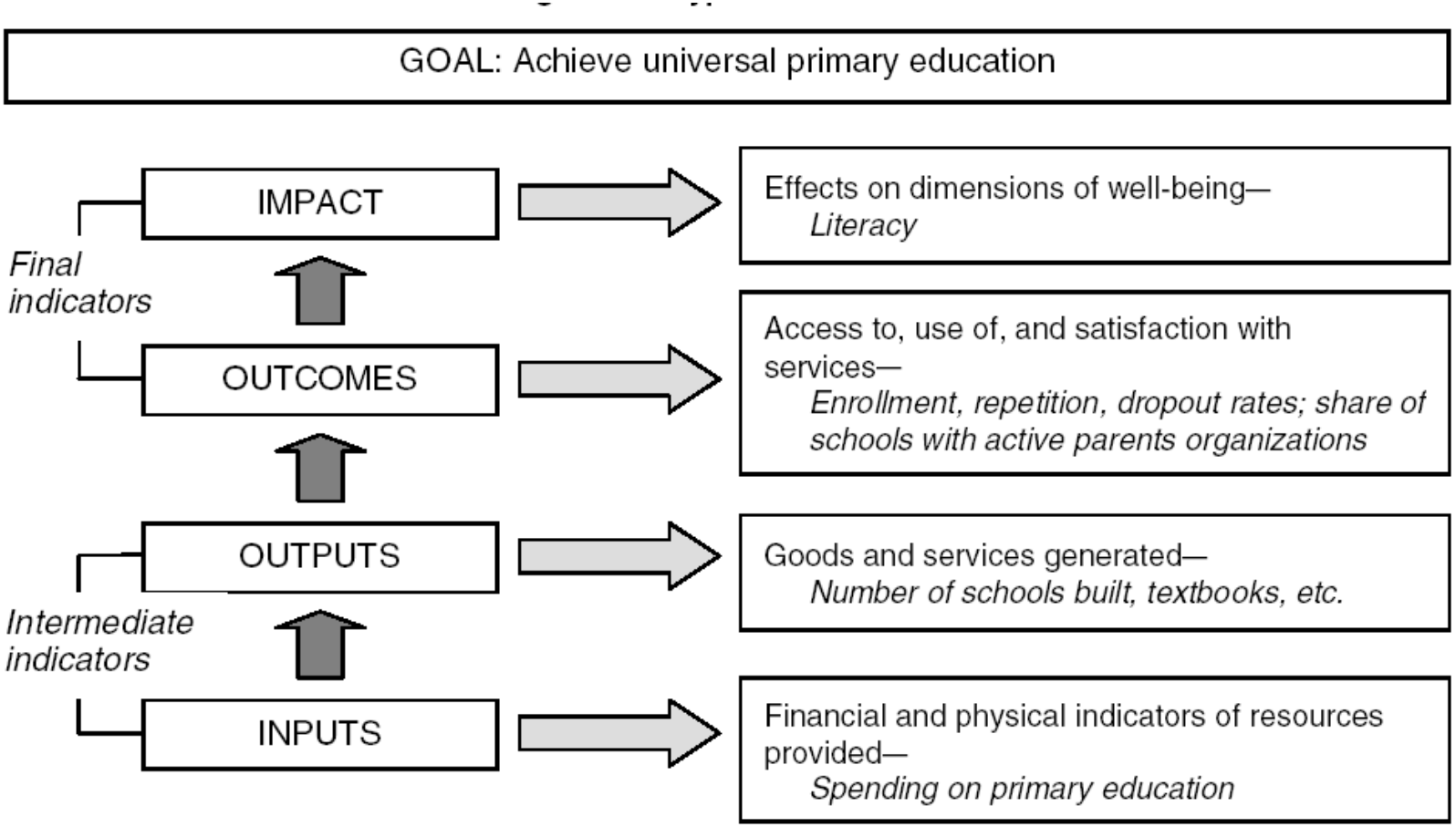
Assumptions of linearity (2)

- Changes in output proportional to changes in input
  - if a little foreign aid slightly increases economic growth, then more aid should produce more growth but absorption capacity needs to be taken account – more aid does not necessarily equate to better aid
  - In complex systems, output is not proportional to the input, but that the relationship is non-linear
  - ‘Sometimes even a small amount of the variable can do a great deal of work and then the law of diminishing returns sets in… in other cases very little impact is felt until a critical mass is assembled’ (Jervis, 1997).

Assumptions of linearity (3)

- Output of two different inputs is equal to the sum of the outputs of the individual inputs
- If
  - Action A leads to Consequence X *and*
  - Action B > Consequence Y *then*
  - Action A + Action B > Consequences X + Consequence Y
- This does not hold in complex systems
  - Consequences of Action A may depend on the presence or absence of many other factors
  - May be affected by B or B's Consequence (Y)
  - The order in which actions are taken may affect outcomes

Ideal picture of linear impact: the MDG Goal of universal primary education by 2015

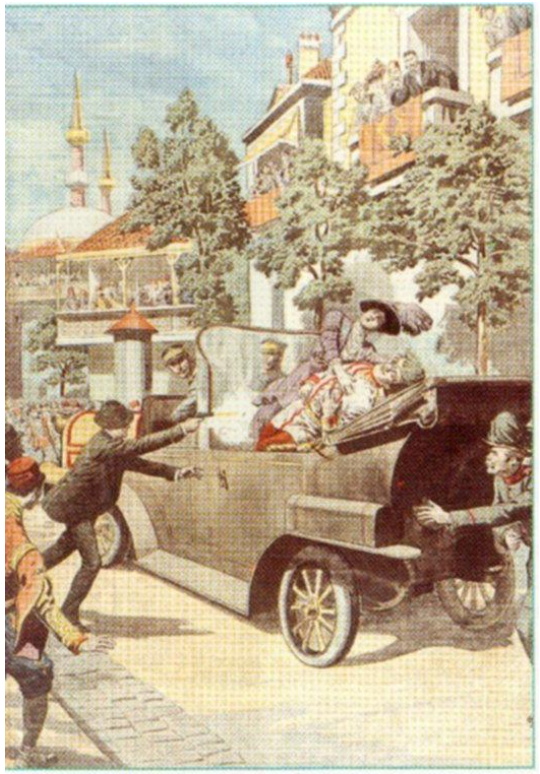


Reality of is rather different…

"…Universal primary education would be achieved at present rates of progress in 2079 in sub-Saharan Africa and in 2036 in the Middle East and North Africa…"

Social Watch 2007

Real world effects are complex



Activity → Output → Outcome → Impact

and hard to discern, even a long time after the fact

Tiny **differences in initial conditions** can lead to very different outcomes

‘… the map to the future cannot be drawn in advance. We cannot know enough to set forth a meaningful vision or plan productively...’ (Tetenbaum, 1998)

In fact, dynamics in complex systems are **most frequently non-linear** – cannot focus on just one thing, change is disproportionate, efforts are not “added”

“…talking about non-linear problems is like talking about non-elephant animals…”

Howard Waldrop

Implications: Challenge linearity, wherever it may lie

- **Challenge assumptions, mental models and implicit theories** being used in a specific situation, to make decision making “wiser”

- **Work to understand the association and interaction among variables of a system**, rather than just cause-and-effect, and analyse how variables interact and feedback into each other over time

- **Be aware of the implications for linear logic** of planning tools and techniques such as the ubiquitous logical framework approach - despite value in encouraging clear thinking: ‘...log frames tends to be one-dimensional and fails to reflect the messy realities facing development actors...’ (Bakewell and Garbutt, 2005)

Implications: re-think the purpose and focus of planning and learning

- **Incorporate an acceptance of the inherent levels of uncertainty into planning** – improving one's models of change and analyses of facets of a situation can help, but also need to build in a realistic understanding of uncertainty into project and program design.

- **Learn from the future** Adjust the way that organisations look into the future by taking a more systematic and realistic view of what the future can hold

- **Replace the "search for best practices" with "facilitating good principles"** '… development workers to become facilitators … enabling representatives of other communities … to see first hand what in the successful project they would wish to replicate'

- **Adjust M&E approaches to allow for learning from unexpected outcomes** (e.g. outcome mapping), rather than retrospectively rationalising that they were intended all along

- **Demand and work towards greater levels of flexibility in the management and funding of international aid work**, involving more transparency and advocacy from NGOs, less stringent 'targets' and requirements from donors

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Humans are adaptive agents that self-organise

- Complex systems
  - Study of non-linear dynamic systems comprised of elements that react rather than consciously adapt or change: weather systems, pendulums

  Versus
- Complex adaptive systems
  - Study of systems comprised of agents who learn and adapt; who act in non-linear and unpredictable ways e.g. ecosystems, human organizations

- Adaptive Agents
  - sense and react to their environment in different ways
  - process information
  - make decisions
  - take actions
  - have diverse goals
  - react and adapt to the system
  - Self-organise with each other

Social, political and economic life are characterised by complex systems made up of self-organising adaptive agents

- Adaptive agents bring perception, reflection and conscious action into the complexity science lens
- There may be greater dynamism and unpredictability in a system of adaptive agents whose perceptions can influence the system
- Adaptive capacities of agents leads to processes such as tipping points and self-fulfilling prophecies

Examples of non-linear social and economic change created by adaptive agents and the self-organising capacities of those around them

- Rosa Parks' refusal to yield her seat

- A statement or word used by Fed Reserve Chairman (Alan Greenspan / Ben Bernanke)

- Emphasis must be on the centrality of human agency in international aid work, moving away from models of ‘passive recipients’

- The ways in which the aid system **inhibits or permits adaptation and self-organisation** has implications for effectiveness of aid

Implications: individuals, networks and relationships matter

- **Understand the wide range of social actors involved in international aid, and their commitments and alignments around different strategies, interests and political trajectories - different perspectives on what the aid system is need to be at the forefront**

- **Understand how and why certain agents may interact in ways that withhold or suppress the adaptive capacities of others in the system**: **power is also complex**
  - e.g. local NGOs under thumb of internationals, developing country officials who are excluded from trade negotiations

- **Aid agencies should themselves be adaptive agents: 'ready to be influenced by local actors** - aid should not be seen as outside force or acting on a developing country without itself being affected,'.

- **Emphasise the importance of understanding relationships and behaviours**: development projects should see 'relationships management as important as money management' (Eyben, 2006); focus on the agents with whom a program works directly (cf Outcome Mapping)

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Aid on the Edge of Chaos

- Using these ideas and principles as a starting point, I am currently working on a full-length book, Aid on the Edge of Chaos, to be published by OUP in 2011

- The book is focuses on four inter-related aspects of aid work, and looking at the implications for how these areas are approached
  - Strategy; Organisations; Knowledge and Learning; Performance and Accountability

Strategy

- Much aid strategy is based on linear predictable models, and getting the content right – “macro-management” / “management by deeming”
  - Go beyond puzzle-solving to sense *patterns* and *interconnections*
  - Move beyond ex-ante ‘development truths’ to parallel experimentation
  - *Strategic adaptation* is essential

Knowledge and Learning

- Knowledge and learning as a means of means navigating messes, not solving problems
  - Need *interpretation* as well as *analysis* for knowledge to be put to work in operationally relevant ways - *emerges from relationships, mindsets and capacities*
  - Knowledge is *contextually specific* and needs brokering and facilitation of principles and mindsets, not transfer of best practices
  - *Co-evolution* is essential especially with higher order learning – need to explore and adapt to changing landscapes: “walking on a trampoline”

Performance and Accountability

- Performance and accountability is where the linear mindset has its most in-depth articulation – the linear heart of modern aid agency culture and attitude
  - Look to the reality of change – baselines and indicators are important, but so too is an understanding of *initial conditions* and the *space of possibilities*
  - Change is *non-linear and unpredictable*, aid agencies make contributions to such change but seldom drive it, need more modesty and honesty
  - Performance and accountability are *emergent system-wide properties* – look beyond the individual organisation to consider the entire aid system

Organisations

- Aid agencies are seen as Fordist mechanistic engines for bringing about change, the reality is rather different
  - Organisations need to be *poised, adaptive across multiple systems*
  - S*elf-organisation* is key – distributed leadership models
  - Understand the *“eco-cycle” of aid change, change is inevitable and continuous*

visit www.aidontheedge.info for more emerging ideas

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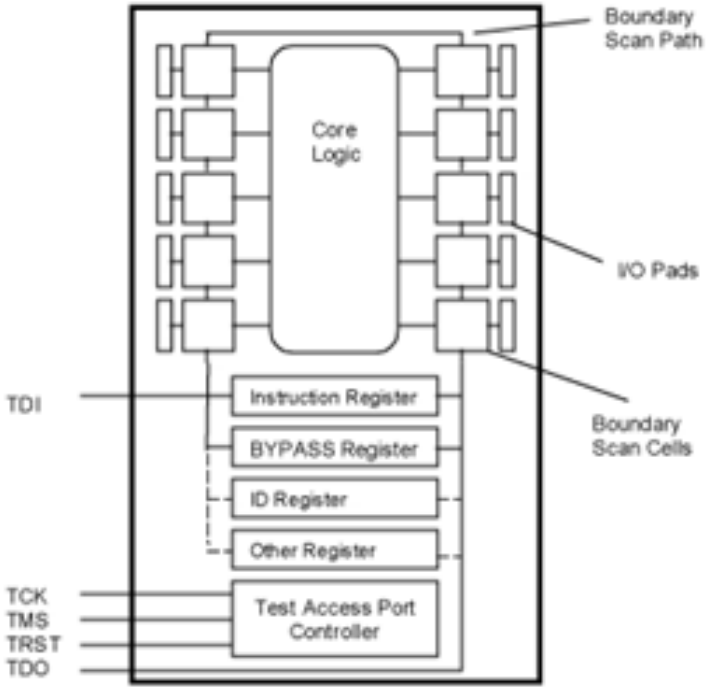
Linearity dominates much aid work... But what alternatives?



Complexity scientists use a range of ideas and concepts - familiar, challenging and baffling - to make distinctions between simple, complicated and complex systems and phenomena

Not “answers”, but
new interpretive frameworks

Simple

Following a Recipe

- The recipe is essential
- Recipes are tested to assure replicability of later efforts
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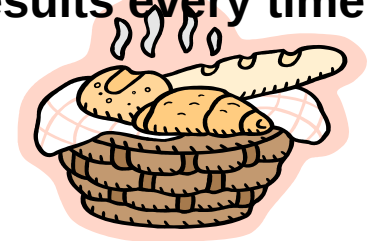

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- Formulae have only a limited application
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- Can't separate parts from the whole
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These give additional weight to calls for re-thinking five key areas of international aid

1. The tools and techniques for strategic planning
2. Processes of knowledge sharing and learning
3. Performance and accountability of aid work
4. The nature of the organisations and processes utilised in aid work
5. The *dynamics* of change triggered by aid work
6. The role of partner organisations and recipients in aid work
7. The wider contexts and the real influence of aid work

Given the resistance to change in the power dynamics of aid, complexity-informed views may continue to be “innovative”, “under the radar” and “outside the mainstream” of aid policy and practice...

Four suggestions

- Develop collective intellectual openness to ask a new, potentially valuable, but challenging set of questions of our mission and work

- Develop collective intellectual and methodological restraint to accept the limitations of a new and potentially valuable set of ideas
  - Attraction to solutions that offer the “answer” are themselves part of the problem
  - Not misuse or abuse or let them become part of the ever-swinging pendulum of aid approaches

- Need to be humble and honest about the scope of what can be achieved through ‘outsider’ interventions, about the kinds of mistakes that are so often made, and about the reasons why such mistakes are repeated

- Need to develop the individual, institutional and political courage to face up to the implications of complexity

Closing point

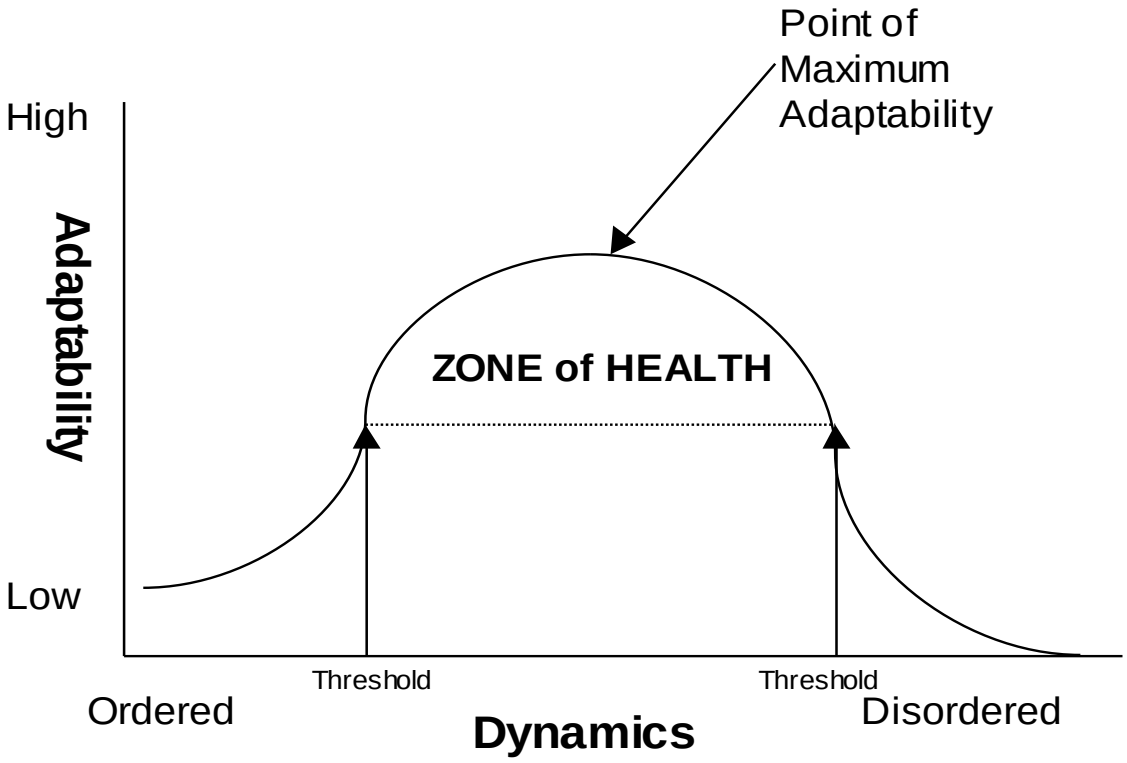
Systems can be placed on a spectrum between extremes of ordered and chaotic

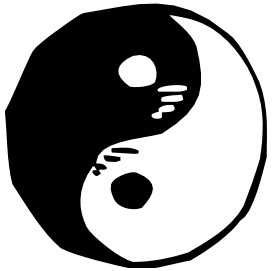
- E.g. solids and gases
  - In solids, atoms are locked into place
  - In gases they tumble over one another at random

- In between the two extremes, at a phase transition, a phenomenon called the ‘edge of chaos’ occurs
  - This phenomenon describes systems behaviours where the evolution of the system never quite locks into place and never quite dissolve into turbulence either.

- In human organisations, the simplest example is of a system that is neither too centrally controlled (order) nor too bottom-up and therefore disorganised (chaos)

This dynamic adaptability at the edge of chaos is the key to "system health"

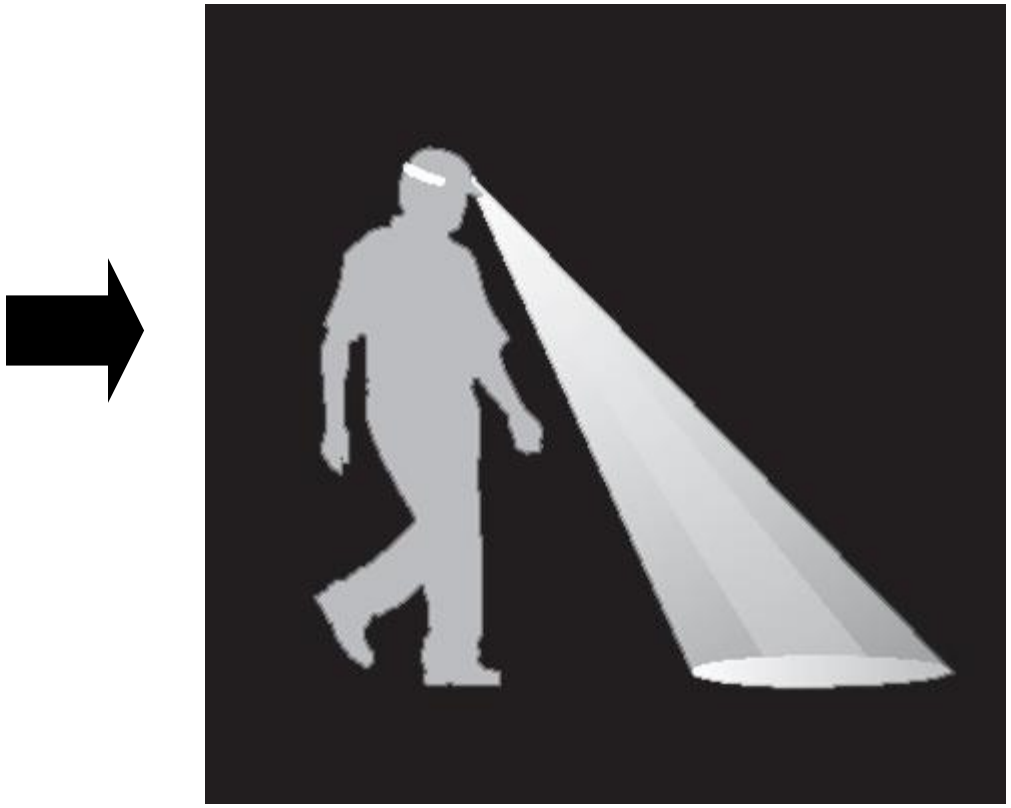




Changelessness is a sign of death, transformation a sign of life.
- Commentary on the I Ching

Complexity concepts have the potential to support the dynamic adaptability (intuition, innovation and navigation) of aid leaders and practitioners... Moving away from the lamplight...

...moving towards the edge of chaos...



Thank you!

- Get in touch
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- Blog
  - www.aidontheedge.info